June 1999
Volume 67 No 6

Amateur Radio

Journal of the Wireless Institute of Australia

Full of the latest amateur radio news, information and technical articles, including...

- First Results from the AGM
- Update on LIPDs
- An Automatic Beam Pointer
- General Purpose Amplifier/Mike Tester/Power Supply
- A Complex Impedance Analyser—Review
- Morse Code — Signing Off

Plus *lots of other articles, news and special interest columns.*

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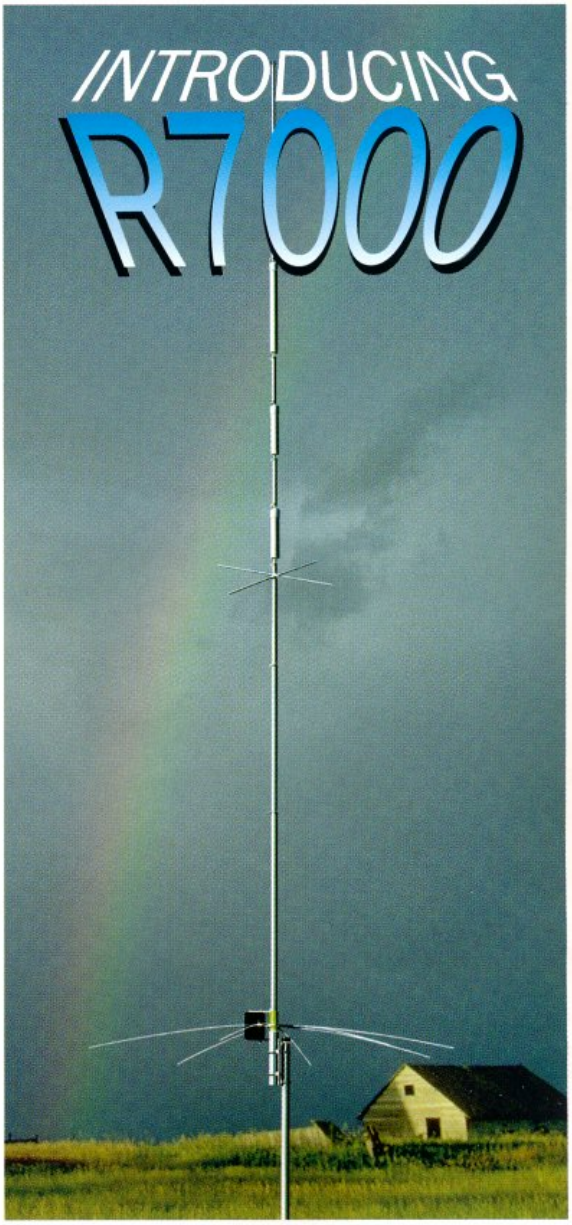
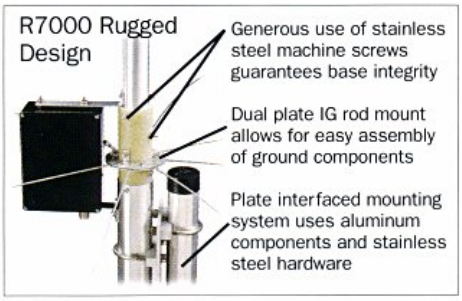
COMMUNICATIONS ANTENNAS



The R7000 is a 10 through to 40 metre, no ground radial antenna that is expandable to include the excitement of 80 metres. It includes the best features of its predecessor the R5 and R7 plus many more. R7000 means excellent performance, easy installation and use, slim silhouette and high reliability.



- Expandable to 80m - Transforms your R7000 into an R7000+ with R80 kit (trap, tubing, guy & counterpoise wire)
- Reliable - New trap design is stable in all conditions
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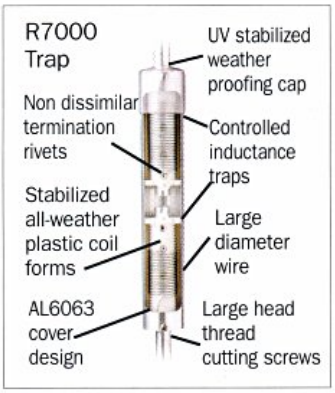

Freq.	28, 24, 21, 18, 14, 10 & 7MHz
Gain	3dBi
Power rating	1.5W(PEP)
Mast Size	1 3/4" - 2 1/8" dia.
Weight	18lbs
Price	$1129.00 INC.TAX

R80 Add-on kit

80 metres can be easily added to the R7000 with the R80 kit. The kit includes a 40 metre trap, tubing, 80 metre loading coil, UV stable 400 lb. test guy rope and three 20 foot counterpoise wires that attach to your guy points. The R80 counterpoise wires were designed with state-of-the-art anti resonators to ensure top performance on all bands. $368.00 INC.TAX

The SGC-230 Automatic antenna coupler can be used within its' power rating with any HF Transceiver within 1.6 to 30 Mhz. Designed for marine, portable and fixed base applications. 3-30 Mhz range with 9ft minimum antenna. Number of channels unlimited.

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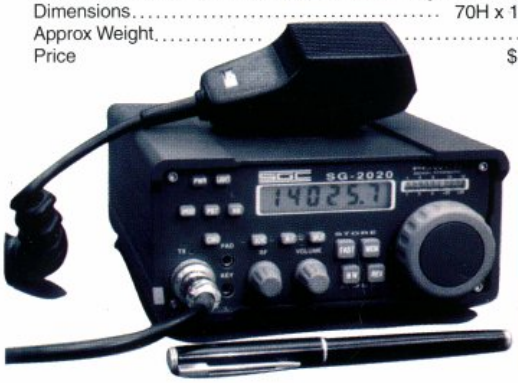
SG-2020 HF Transceiver (20WATTS - 1.8-30MHZ)

Model	SG-2020 Synthesised single sideband radiotelephone
Power Output	20 watts PEP - USB, LSB, CW
Memories	20 Simplex or semi duplex
Voltage	12VDC
Speaker	Internal 5 watt
Microphone	Dynamic fist microphone
Dimensions	70H x 150W x 190L
Approx Weight	1.1 kg
Price	$1730 Inc tax



SGC-230

$950.00 INC.Free delivery Aust. wide

Frequency range:	1.6-30 Mhz
Power rating:	200watts PEP max. 12VDC operation
SW:	Less than 1:1.5
Tune power:	3 watts nominal
Weight:	3.5kg
Dimensions:	370x300x90mm
Supplied with	9ft.cablefor coaxial and DC power.

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Amateur Radio

The Journal of the Wireless Institute of Australia

ISSN 0002-6859

Volume 67
Number 6
June 1999

Amateur Radio is published by the Wireless Institute of Australia ACN004 920 745 as its official Journal on the first Friday of each month

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Registered Office

10/229 Balaclava Road
Caulfield North VIC 3161
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Business hours: 9.30am-3pm weekdays

Editorial & Display Booking Deadlines

June	**14/5/99**
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August	**11/7/99**

Hamad & Display Material Deadline

June	**21/5/99**
July	**18/6/99**
August	**21/7/99**

Production

Administration, Drafting, Design & Sub-editing
Shadetree Publishing & Imaging
PO Box 288 BEERWAH QLD 4519

Pre-press, print and mail management
Newsletters Unlimited (03) 9428 3458

Printed by **Streamline Press, Melbourne** (03) 9417 2766

Mailed by **IMS, Melbourne** (03) 9291 5888

Receipt of *Amateur Radio* by mail

This issue was delivered to Australia Post on Friday June 4 If you are a financial member and have not received your copy by the 15th of the month please check with your local Post Office before contacting the registered office of the WIA.

General

Technical

Columns

Our cover this month

Some of your representatives at the 1999 Annual General Meeting

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, How to write for Amateur Radio is available from the Federal Office on receipt of a stamped self-addressed envelope.

Back Issues

Back issues are available directly from the WIA Federal Office (until stocks are exhausted, at $4.00 each (including postage within Australia) to members.

Photostat copies

When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published..

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

The world's first and oldest
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Founded 1910

Representing
The Australian Amateur Radio Service

Member of the
International Amateur Radio Union

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Wally Howse	VK6KZ

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Richard Jenkins VK1RJ

EDITORS COMMENT

Acronyms

A letter arrived some months ago from Sid Ward VK2SW of Wagga Wagga. He wrote the address using two Waggas, so in deference to his preference and, I believe, most of his fellow residents, I have done so. I guess the duplication is for the same reason as nouns are duplicated in the Indonesian/Malay language, to indicate a plural. In the NSW case it also indicates a number more than two, I believe, and actually means "many crows" in the aboriginal language of the area.

But Sid's letter was not about two Waggas. It was about the WIA news article on page 5 of our February 1999 issue. The article was from an ITU news release (number 34 for 1998) and discussed international negotiations to standardise world communication systems. Sid's problem (and mine too) was "what do all those letter groups mean?". He has been unable to find anyone who does fully understand the article! I have to admit that when I proof read the page it was less than crystal clear to me too! But I assumed that most experts, more knowledgeable than I, would know what was meant by CDMA, RTT and their like. Their meanings should have been listed at the beginning of the article, but they were not in the original and so could not be listed.

Let me have some guesses. IMT is "International Mobile Telephone": RTT (defined in the third paragraph) is "Radio Transmission Technology": IPR (mentioned in paragraph two) is "Intellectual Property Rights": TDMA once meant "Time Division Multiple Access" and experts assure me that it still does. 2G and 3G means "second generation" and "third generation", and CDMA is "Code Division Multiple Access".

I hope all this has helped some of you translate the article.

Bill Rice VK3ABP Editor

1999 FEDERAL CONVENTION ELECTED OFFICE BEARERS

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Peter Naish VK2BPN

Directors
Tony Farrow VK2TJF
Wally Howse VK6KZ
John Loftus VK4EMM

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Richard Murnane VK2SKY

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VACANT POSITIONS

The following positions are vacant. Persons interested in filling these positions or nominating others should do so through their Division as soon as possible.

Federal Media Liaison Officer

Electromagnetic Compatibility Coordinator

AMSAT Coordinator

Federal WICEN Coordinator

QSL Collection Curator

Videotape Coordinator

Comment

Federal President, Peter Naish VK2BPN.

FROM THE PRESIDENT

The Annual Convention and AGM of WIA Federal was held in Sydney over the weekend May1/2 1999. It was attended by the Federal Councillors from each of the State Divisions, the Federal Executive and a number of other representatives of the Divisions.

As usual, it was a very busy meeting with many items for discussion and resolution. I am pleased to report that we made considerable progress in an atmosphere that was both constructive and cordial. It seems that we are now indeed working as a national team with the potential to solve the many issues ahead of us. A full report on the meeting is being prepared for publication in the next issue of this journal.

One of the most important functions of the WIA is the liaison with the ACA. We are respected and recognised as the voice of the radio amateur in Australia and have a close working relationship with the ACA. Under my chairmanship the WIA/ACA Liaison Committee is working hard to achieve results which will satisfy the majority of amateurs. There is a great amount of talent at our disposal, which is just as well considering the breadth and depth of the subjects currently under consideration. These range throughout the radio spectrum from possible VLF bands to the high gigahertz regions, plus the many licensing and examination matters that are fundamental to our operations.

I intend that our work with the ACA will be a major activity for the WIA this year. It is an area that can achieve results to benefit all Australian radio amateurs no matter what their particular interests may be.

We must not overlook the international scene, however. There are plans in the next year or so for the ITU to review the International Amateur Service Regulations which form the basis of the amateur radio service world-wide. Apart from preparing to represent the amateur radio service at these ITU meetings, the IARU, in which you are represented by the WIA, is tackling many international issues as diverse as illegal operations on ten metres, revised allocations for forty metres, encryption of amateur transmissions, promotion of QRP operations, support of amateur activity in emerging nations, educational projects involving amateur radio and many, many other facets of our hobby. I propose to ask our WIA coordinators who are responsible for these areas to provide regular "plain language" reports on these activities so that everyone can understand what is happening in the international arena.

WIA News

WIA News, Assembled by
Bob Harper VK4KNH
Items have been supplied to me by
Graeme Kemp VK4BB from his QNews Bulletins

David Thompson VK2NH -Federal Public Relations Coordinator, is not available for this edition as he is currently recovering from major surgery. I don't know enough about his surgery to report to AR but I understand he is comfortable and eager to get on with life. I am sure that all Amateurs and SWLs wish him a speedy recovery and look forward to receiving his WIA News again soon . (Bob VK4KNH)

Brighter Future for Australian Digital TV

The Australian Broadcasting Authority's draft digital channel plan for digital TV services was released Wednesday 5th May. ABA's proposal will allow greater diversity of services and new industries to be created via the broadcast services band in the VHF and UHF spectrum.

The ABA proposes allocating only a main 7 MHz digital segment to each of the five existing broadcasters in the major population centres. Spectrum for the translator channels will be allocated in a phased approach once the ABA is satisfied the best technical information is available.

The announcement clears the way for Australia's existing broadcasters to quickly introduce digital transmissions. The broadcast television industry has debated and won the right to introduce high definition television (HDTV) on 1st January 2001.

(News Limited 2 Molt Street, Surry Hills)

THE DRUM...from P29

Our reporter is Rick P29KFS who currently is in Cairns Base Hospital after a helicopter crash in the rugged PNG Highlands. QNEWS is unable to obtain any information on his condition, but our thoughts and prayers go out to all involved.

What's happening in the world of Amateur Radio in P29? In a QNEWS EXCLUSIVE Rick P29KFS picks up the story.

"We have made some efforts here to popularise AR but there has really been a disappointing response. When Jim Smith was here, in the mid 1970's there were many amateurs associated with Telikom, ELCOM and DCA, although most were expatriates.

When these government departments were "localised" a large percentage of the technical types left. In Telikom, quite a significant number of PNG nationals gained their amateur licenses, but did not become active. For many years there were about 40 amateurs in Port Moresby and most of the PNG Amateur Radio Society members and executive came from here. As numbers thinned, the membership became more and more from people on the outstations where radio was part of their life. Now, a lot more amateurs live out of town and Port Moresby has few active people.

As the PNGARS activity waned, a few active VHF'ers and myself started the Port Moresby VHF Club, an informal group that operated about 20 years ago and was responsible for building and finally establishing the Mt Albert Edward voice repeater in 1983. This lasted until 1986 - without any maintenance at all and has now been resurrected as a packet Digipeater due to the low traffic it had on voice.

P29RAE still runs 100% of the time and often displays several VK4 check-ins when we get a chance to look at it.

Unfortunately, the radio in use is a simple MFJ data radio which is both low powered and low in receive sensitivity, so not really conducive to VK4 DX. However we are working on getting some FM828's set up on 144.9 so that this site will really offer a digital gateway into PNG.

Further penetration of PNG will be possible when we place another Digipeater on one of the commercial sites in Lae (my company operates these), as this can talk to Mt Albert Edward quite well.

We already have a digi in the Eastern Highlands (where Norm is) and so VK4's could digi all the way to Goroka when ducting opens the path between Queensland and PNG's south coast."

(Rick P29KFS)

ar

The 1999 WIA AGM

Comments by Federal Councillor
Ian Hunt VK5QX
Photographs Ron Churcher VK7RN

There are so many facets of activity within the WIA that can be addressed and one of these is certainly the make up and composition of the Federal body.

I have been a member of the WIA for over 45 years and in that time I have seen changes take place regarding its operations. In some facets it seems that there has not been much change at all. One aspect that has changed little is that we still have a body made up of seven separate states. It is this that I would like to examine and comment on.

I think that firstly we need to agree on one basic thing. That it is essential that we have some form of representation of the Amateur Radio operators of this country to the various authorities, local, state, national, international and also in some of these areas to other Amateur Radio organisations and societies.

The first groupings refer mainly to government and inter-government instrumentalities and the latter to such as individual radio clubs, other specific national societies such as the ARRL, RSGB and NZART and to the IARU.

To be able to do all this requires a fair amount of effort and a requirement for suitable personnel to carry out the necessary work. It is not always easy to find the people needed and there is always a need for volunteers to help in such as the various coordinator tasks.

I think that firstly we need to agree on one basic thing.

That it is essential that we have some form of representation of the Amateur Radio operators of this country to the various authorities, local, state, national, international and also in some of these areas to other Amateur Radio organisations and societies.

The make up of the WIA seems to have some organisational flaws, however, despite these there are people who try as best they can to provide the needed services to the Amateur Radio operators of Australia.

From time to time these representatives meet, such as at the recent Annual Federal Convention held in Sydney on 1st and 2nd of this month, and by way of telephone conferences from time to time. They also keep in touch by telephone, e-mail and through the postal system.

One would expect that in this day and age communications would be easy, however, we do not live in a model world nor are people perfect in their make-up.

You must expect some problems will be encountered but despite this the people concerned do their best to further the cause of Amateur Radio.

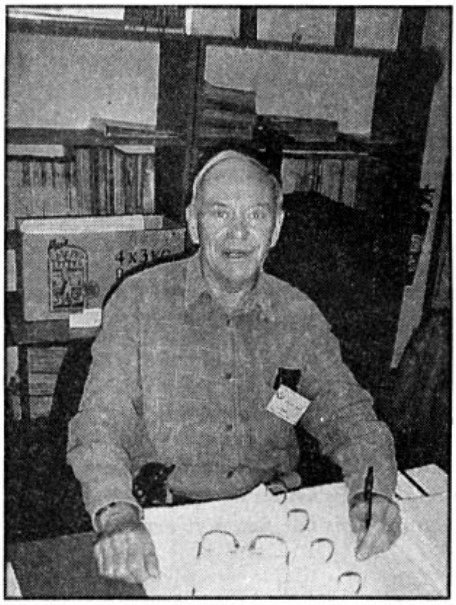
For many years I have been making a point that ALL office bearers in any positions within the WIA, be it at Divisional or Federal level, should always keep in mind the fact that decisions they make can have effects on ALL Amateur Radio operators, WIA members and non-members alike.

Such decisions can also have ramifications on a local basis through to national and international areas.

Thus you can see the necessity for people to act responsibly wherever they hold office.

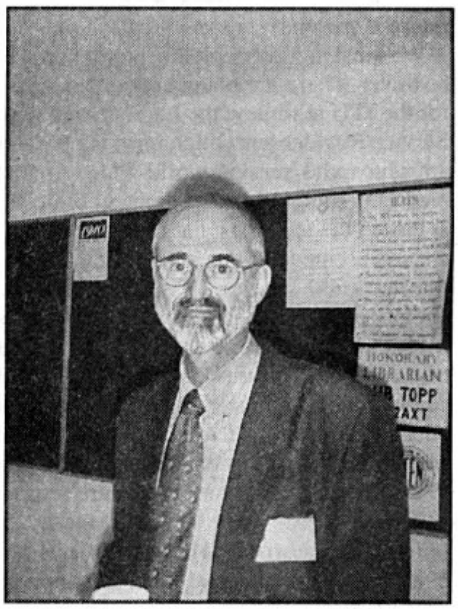
The 1999 Federal Convention the Federal

WIA Directors



Peter Naish VK2BPN, Federal President

Wally Howse VK6KZ, Director



Tony Farrow VK2TJF, Director

The 1999 WIA AGM

Council elected the President and Directors of the WIA for yet another year.

The retiring **Federal President Peter Naish VK2BPN** was the only nomination for the position of President, thus he was elected unopposed.

My opinion is that any Federal President needs at least two years in the position to allow him to make any worthwhile contribution to the workings and direction of the organisation.

There were three Director positions left to fill with four candidates.

Those nominated were two Directors from the previous year namely Wally Howse VK6KZ and Neil Penfold VK6NE. Other candidates were Tony Farrow VK2TJF and John Loftus VK4EMM.

Each of the candidates provided a brief statement to the Council regarding their background and qualifications as well as their ideas and aims for Amateur Radio should they be elected.

Election of the Directors is done by means of an exhaustive ballot meaning that each has to obtain a majority from within the Council to achieve election. The result of this was that Tony VK2TJF, John VK4EMM and Wally VK6KZ were elected.

I am sure that each of these people has the best interests of the WIA and Amateur Radio as a whole in mind as they take up their tasks and adopt the various portfolios to be assigned to them.

There is no doubt in my mind that they do have an important role to play when looking towards the future of Amateur Radio in this country. I do not particularly envy their task.

The nomination by the South Australian Division of John Loftus, a member of the VK4 Division, shows a non-parochial approach and I believe that herein lies the crux of a forward-looking approach. VK5 see it as a virtual necessity that we have the very best people at the higher levels of administration of the WIA .

We have looked wherever we can to locate and identify such people, and this is not easy . People of this calibre are usually very busy with other time consuming management tasks as part of their daily livelihood.

Last year's nomination by VK5 of a member from VK3, whilst not immediately successful, restored the time honoured approach that any Division can nominate any suitable candidate.

It is also interesting to look at the "mix" of Directors from at least two different points of view, their location and their capabilities.

Several arguments can be made regarding location.

I do not know which may be the most important, however, I can see that a spread of Directors from around the country will provide a perception of a wider spread of opinion and a greater likelihood of variety of contact with Amateur Radio operators and people in general.

Alternatively a case could possibly be made that a group of Directors in close proximity, i.e. all in one state or even city, may provide a more efficient team. You might also argue that with today's modern communications capabilities such should not be so.

It may also seem to some that a change of Directors over a period is advisable, and I do lean towards this idea with the proviso that such changes should be gradual and allow for some continuity of service in the positions.

On the matter of capabilities it seems obvious to me that bringing together a team of people, each with different skills and experience, provides a greater potential for success in any organisation.

So, let us look briefly at our current situation.

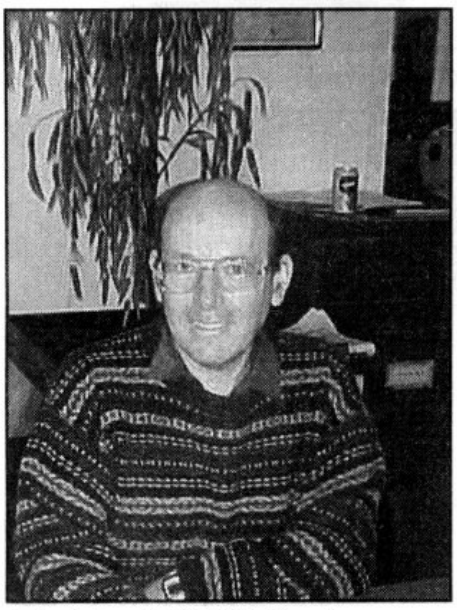
We have as a Federal President a person who has already completed a year in that position.

I have almost no doubt that Peter VK2BPN would agree that he has learned from his experience so far and I have no hesitation in believing that this experience

continues over

Not Quite an Eyeball Contact

But these photographs from the AGM do put faces to the VK voices and contributors to AR



John Loftus VK4EMM, Director

Brenda Edmonds VK3KT and Jim Linton VK3PC

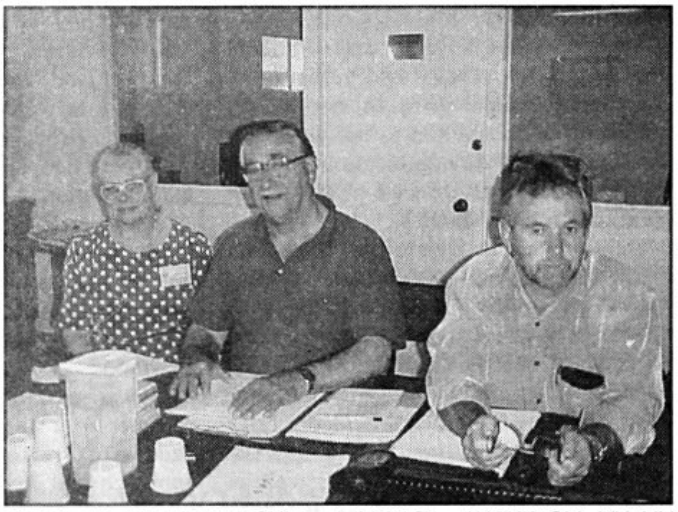
will stand the WIA in good stead for the new year of office.

Wally VK6KZ is in a somewhat similar position and retention of him in a Director's position helps with that need for continuity that I have referred to.

Tony VK2TJF comes to the task with some management experience, a qualification undoubtedly of value,

Putting faces to the voices, — some well known call signs caught in the lens

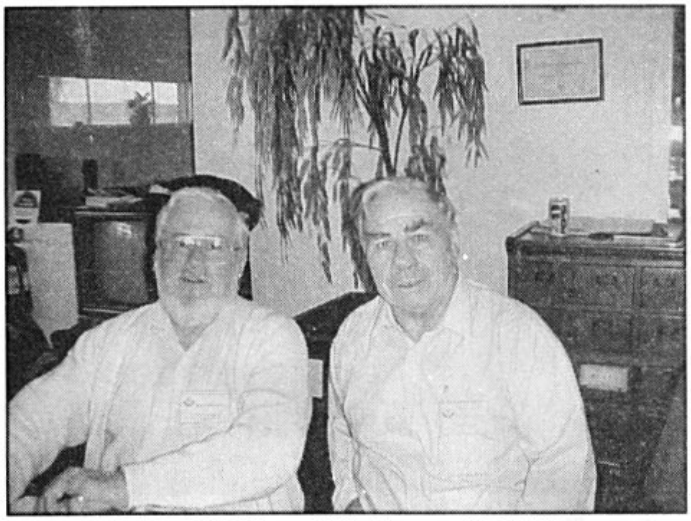
Phil Corby VK7ZAX and Ron Churcher VK7RN



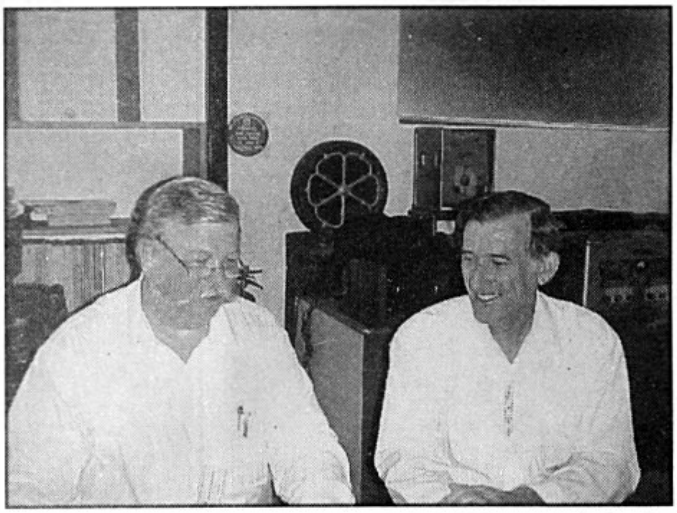
Christine Bastin VK6ZLZ, Cliff Bastin VK6LZ and Will McGhie VK6UU

Eric Van De Weyer VK2KUR and Barry White VK2AB

Ian Hunt VK5QX and David Box VK5OV



Michael Corbin VK2YC and Eric Fossey VK2EFY



Martin Luther VK5GN and Neil Penfold VK6NE

The 1999 WIA AGM

however his stronger points are that he is skilled in areas of education and development within an academic background and almost certainly with a good understanding of the youth of today.

John VK4EMM fits into a somewhat different category with his strong points being a wide variety of experiences in business management at high level, promotion of company image and sales on a national basis and a detailed understanding of modern business practices.

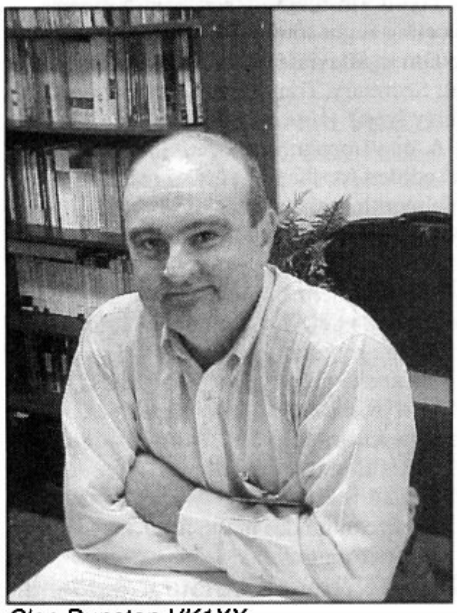
With John as a nominee of the South Australian Division you would not be too surprised to learn that during the period leading up to the Federal Convention, I had made enquiries regarding him from a number of sources.

I also had a series of discussions with him by both telephone and e-mail. I had, naturally enough, spoken with officials from the VK4 Division regarding his possible nomination.

So, by now you will have at least some understanding of the "why, how and wherefore" of John VK4EMM having been nominated for a Federal position by the VK5 Division.

Maybe just by the way, another good reason, in my opinion, for choosing John is that he is without any doubt a very active Amateur Radio operator. One of my confidants described him as, energetic, capable, single minded, successful - a Victorian Open golf champion and a Chess Master. Need I say more?

ar



Glen Dunstan VK1XX

LIPDs

Peter Naish
WIA Federal President

Report On Status Of WIA Actions

WIA is continuing to pursue an acceptable outcome to the concern expressed by many radio amateurs that Low Interference Potential Devices (LIPDs) do/may cause interference to amateur activities.

A particular case is the Class Licence established by the ACA, which allows LIPDs to operate in a portion of the amateur 70cm. Band.

The 70cm Class Licence is intended to provide spectrum for very low power, short range, low duty cycle devices which use wireless technology to interface with parent equipment.

Typical of these are the keys used to operate car doors and remote control of machinery. There is no suggestion that two-way voice communication was envisaged when this Class Licence was originally established some years ago.

A very great number of LIPDs which meet the requirements of ACA's Class Licence are now operating in the 70 cm band. The majority of these are extremely low power data devices fulfilling functions as originally envisaged.

It would therefore be unrealistic to expect ACA to consider any change that would prevent them from being used. Their potential to cause problems to the amateur radio service is very low, hence LIPD.

A much more serious problem is the recent appearance of two-way hand-held voice communication units. These meet the requirements of the Class Licence in its current form, but certainly seem to be outside the original intentions for this Licence.

A defacto Citizens Band could eventuate with major consequences for the amateur usage of this portion of the band. Many of our 70 cm repeaters have their input frequencies in or adjacent to the Class licence segment.

Apart from unwanted interference to our repeaters, the possibility of them unwittingly retransmitting Class Licence voice messages to another part of our band should worry both the ACA and us.

While accepting that there is little hope of removing the Class Licence facility from the 70 cm. band, the WIA is continuing to challenge the arrangement whereby voice transmissions are allowed under that Licence.

This appears to be a more sensible approach considering that precedents do exist in other Class Licence bands for specific modes of transmission to be banned.

Be assured that the WIA is taking very seriously the matter of intrusions into our bands. The LIPD matter is only one of several threats to our operations. The concerns of all radio amateurs are well understood and the WIA is best placed to progress them with the ACA and other authorities.

There has been a lot of ill-informed comment making the rounds of the packet network and similar channels, much of which was aimed at the WIA with a view to hurting the WIA.

The complex issues surrounding LIPDs can be difficult to grasp, and naturally individuals are concerned when they hear or read various claims about these devices.

Do you wonder how many radio amateurs filled in proforma complaints to the ACA and have since had second thoughts after being acquainted with the facts? The ACA appears unimpressed by these proforma letters.

The WIA has and will continue to issue factual information bulletins on LIPDs to help keep everyone up to date.

Any WIA member who after reading this article has unanswered concerns about LIPDs is advised to contact the Federal Councillor via their WIA Division, who is in close contact with the WIA/ACA Liaison Committee.

You will be kept informed of progress on all matters regarding LIPDs via further reports in "Amateur Radio" or on Divisional Broadcasts.

Keep a strong voice that will be heard

Join the WIA - the only organisation representing Amateurs to the ACA.

DIVISIONAL NOTES

Forward Bias

VK1 Notes

Peter Kloppenburg VK1CPK

"CQ, CQ, CQ, ALL VK AMATEURS." Would you be interested in a beautiful award certificate?

Well then, keep on reading. It should not take much effort to qualify for the VK1 award.

It depends on the state or territory you live in, but a minimum of 10 points would be enough to get you a basic award. That is not difficult, is it?

It is even less difficult when you realise that there are more than 400 licensed amateurs in the Australian Capital Territory (ACT). One of these is Ted Ihasz, VK1TX. Ted is a very active ham on the bands, and has recently become the award manager for the ACT.

One sure way of getting into contact with him, and with other hams in the ACT, is during callbacks after the weekly divisional broadcast each Sunday from 8.00 p.m. Australian Eastern Standard Time (AEST). Frequencies in use at that time are: 3.590, 146.950, 438.375, 438.325, 438.225, and 438.025 Mhz.

The VK1 Award is issued by the WIA ACT Division upon receipt of a correctly presented application to any licensed amateur operator or short wave listener.

The certificate displays one of Canberra's most distinctive landmarks, the Telecom Tower, situated on Black Mountain in the heart of Australia's Capital City.

The tower is depicted in light blue on a white background with award information in black lettering.

The information required is a log extract showing date and time in UTC, mode, callsign of the VK1 station worked and ciphers exchanged. Short wave listeners should include the station worked by the VK1 station being claimed.

Each VK1 callsign worked, counts as one point. Each callsign may only be claimed once. The change of status to mobile, portable etc, is not allowed as a separate valid contact. Contact via terrestrial repeater systems are not valid contacts towards the award.

Following are the award requirements:

HF within VK (Excluding VK9 & VK0)

Basic award 20 points
Bronze upgrade 50 points
Silver upgrade 75 points
Gold upgrade 100 points

HF outside VK (Includes VK9 & VK0)

Basic award 10 points
silver upgrade 25 points
Gold upgrade 50 points

VHF and higher frequencies requirements are the same as "HF outside VK" for all areas.

Cost of the basic award is AUS$3.00 or 5 IRC's. Each upgrade costs AUS$1.00 or 2 IRC's

In an attempt to assist stations qualifying for the award, a VK1 Award Net operates each Sunday evening on 3.570 Mhz immediately following the VK1 Divisional broadcast. This net generally commences at about 8.30 p.m. AEST. Applications for the award should be addressed to: The Award Manager, GPO Box 600, Canberra, ACT 2601, Australia.

Now for something different. At the last WIA Federal AGM that was held in Sydney, a number of decisions were made. It was decided that Richard Jenkins, VK1RJ, will become the local liaison and coordinator for the ACA liaison team. Good on you, Dick. The next general meeting of the VK1 Division is on June 28, in room Nr. 1, Griffin Civic Centre, Canberra City. Cheers to all.

"QRM" Tasmanian division notes for June Issue.

It was pleasing to see how well out new Divisional Councillor, Phil Corby. grasped the baton and ran with it at the Federal Council meetings in Sydney early last month. I think his training as a lawyer had a bit to do with it but he's got a pretty level head on him as well!!.

We feel those meetings went better than we thought they might, a lot of the success due to our President Peter Naish's chairmanship. Thanks, Peter from the Tassy devils.

Our Southern branch members have been very enthusiastic about their weekly fox-hunts. It's been interesting to note that practically every week a different ham wins. They must ALL be geniuses.

The north-west branch has changed its meeting night to the first Wednesday each month to alleviate attendance problems for our Secretary, Tony Bedelph, and Treasurer Terry Ives.

A good program of activities has been scheduled for the next few months starting this month with a ladies' do in recognition of their help with the Annual Hamfest in March.

The Northern branch is very alive and well again with a lot of activities coming up for future reports.

For some time we've been asked for a Morse session on our repeaters. The southern branch has started one on VK7RHT and the northern repeater VK7RAA is linked to it. We are hopeful of a lot more upgrades in the future

Cheers for now

Ron VK7RN VK7 State President.

NEW WIA MEMBERS

The WIA bids a warm welcome to the following new members who were entered into the WIA Membership Register during the month of May

	MR D GRATTON
L21089	MR T J LEEDER
L21090	MR G F WILSON
L60412	MR E C S KWAN
VK1CG	MR G J CASHION
VK1HF	MR H E FINNEMORE
VK2BYN	MR R G CLARKE
VK2DFU	MR H S COOKE
VK2GLN	MR S FABER
VK2HDA	MR W J CROSSLAND
VK2INZ	MS C C REITHMULLER
VK2IOA	MR H REITHMULLER
VK2IOO	MR J M ROBINSON
VK2JPM	MR J P MAIZELS
VK2NBW	MR K J LONG
VK2TEK	MR E V EMMANUEL
VK2TJM	MR J J MEEKINGS
VK2TUB	MR P BAIRD
VK2XDW	MR D WILLIAMS
VK2XMR	MR M J RAMPLIN
VK2XTJ	MR T SANNUTO
VK2XVS	MR V STAFFORD
VK2XYI	MR S D RICHARDSON
VK2ZJW	MR A J WALKER
VK3JDO	MR D CANNING
VK3OT	MR S R GREGORY
VK3YNG	MR B ACKERLY
VK3ZYS	MR S BARBER
VK6PD	MR P D CROSS
ZL1MRX	MR J FULLER

CLUB NEWS

Port Macquarie Field Day

Field days seem to have become something of an institution over time and the fact that they have continued for so many years as important events in the amateur radio calendar says much about their popularity.

The Oxley Region Amateur Radio Club plans to hold its annual Field Day over the Queen's Birthday weekend, June 12th and 13th. As in previous years, the venue will be right on the waterfront at the Sea Scouts' hall in Buller Street, Port Macquarie, NSW. The program will start around 10.00am on Saturday and provides for 2m mobile and pedestrian foxhunts as well as a wide range of other activities for the whole family.

New amateur gear will be on display, supplied by both local and city dealers and it is significant that much of this current equipment embodies real state-of-the-art technology. In addition and perhaps by contrast, a table will be provided for the sale of pre-loved gear, where a bargain or two can always be expected.

Sausage sizzles are planned for both days with drinks, tea and coffee also being available on site.

Since Queen's Birthday is a holiday weekend and Port Macquarie is a very popular holiday venue, it is important to book early for both motel and caravan sites to avoid disappointment. We look forward to enjoying the company of visiting amateurs who plan on spending the weekend with us in Port.

Alan Nutt VK2GD
Publicity Officer
For Oxley Region Amateur Radio Club
20 Amaroo Parade
Port Macquarie NSW 2444

Redcliffe & District Radio Club advise...

Morse tutorials are on again on 3535 kHz at 7.30pm EST most days of the week - the Redcliffe Radio Club transmits on Tuesdays and Thursdays with readback and callback.

Continuous Morse is now on 3.699 24 hours a day, seven days a week. There is no readback with this transmission.

Sunshine Coast Sunfest

The Ham Radio Day put on each 2 years by the Sunshine Coast Club is to be held at Nambour Showgrounds August 28th. SARC are at present negotiating a reduced rate for weekend cabins at one of the local resorts. Maybe some "out of towners" might like to stay for the sights of the Sunshine coast and a little local hospitality.

Table and display space bookings to Angus (07) 5443 2074 or write to SUNFEST Coordinator 285 Main Rd Maroochydore. 4558.

Tables are available at $15 per table and as space is at a premium SARC are asking for firm bookings by 31st July.

The Sunshine Coast club runs a 2-Metre net every Sunday at 8.30pm. The net, dubbed the "tech net" by one VK4KEL, is devoted to technical problems or topics. All are welcome. Call in on 146.850 Sunday evening to avoid sleeping in front of the "Movie of the Week".

The Shepparton and District Amateur Radio Club annual Hamfest

Will be held on Sunday 12th September 1999 at the Shepparton Youth Club Hall behind the Safeway complex as in 1998.

Early bird gets the worm - further information from

The Secretary
PO Box 692
Shepparton 3630

Moorabbin & District Radio Club Inc. Hamfest

The annual Moorabbin Hamfest was held on Saturday May 8th, at the Brentwood Secondary College in Glen Waverley and was very well attended, with approximately 400 people going through the doors. There were over 55 individuals or groups occupying a total of 80 tables.

The committee wishes to thank those who attended and helped to make this yet another successful Hamfest for the club.

Even Greater Crystal Set Competition

This inaugural competition at the Moorabbin Hamfest attracted several entries. The range of designs used was quite varied from the very simple to elaborate. The standard of construction and performance from each entry was very good. Although I think the judges had quite a fun time in trying to determine who should win what prize and eventually came up with the following results: -

- Ray Rutledge VK3ZQ for the most selective receiver
- Keith McCarthy VK3JNB for the most sensitive receiver
- Ian Johnstone VK3SH whose receiver was judged the most authentic
- Ian Simpson VK3XIS for the most novel receiver
- The best overall entry was awarded to Ray VK3ZQ.

Congratulations go to the above winners.
Denis Babore VK3BGS
Publicity Officer MDRC

Crystal Set Competitions

Is it time for a national competition?

There has been an increase in interest in crystal-set competitions in recent months and it appears that although the recent events were mainly the domain of hams, the opportunity exists for some marketing of AR.

If every club in the country held such a competition, with a category, (or several) for school aged contestants, then that might raise some interest in radio, amongst the next generation.

If the incentive included representing their town or school in a regional competition, then state and finally national competitions, do you suppose that the students might become interested?

The event would be best set to a schedule which would be given to Science teachers Australia Wide.

Local hams might avail themselves to help potential contestants, to measure the performance of entries and to give a general presentation of what radio is all about and Amateur Radio specifically as a hobby. Venues would be at High Schools or perhaps Radio Clubrooms for most competitions.

Initially there are no travel costs for school/town competitions but regional competition would entail at least a car ride. State events could certainly involve travel expenses.

The National competition might attract sponsorship but the state level may prove to

be more difficult and entail higher costs due to more participants.

One method to reduce costs would be to choose from the regional finalists a set number of entries whose performance figures suggested a chance of winning at state level.

Local clubs might raise sufficient funds to assist parents in travel expenses. Various school science organisations may assist in setting up sponsorship.

The one remaining requirement is a standard set of rules defining types of components allowed, maximum size, construction standards, measurement standards and appropriate weighting of the individual measurements. Categories also need to be standardised and suitable prizes sought.

What do you think? Would you be prepared to supply your time to organise events, assist contestants, judge results and chase sponsorship? Give it some thought. Ask your members at the next club meeting. 73, Bob VK4KNH

Amateurs in the News

FROM THE WEIRD AND WONDERFUL FILE

On the local Central Queensland television news recently one of RADAR club members, Leon VK4KLL was seen on screen installing a new 18 tonne 1.5 megawatt "TRANSISTOR"!

This is what the news anchor called it any way.

Actually it was a 66kv to 22kv transformer! Leon is an asset manager with Capricornia Electricity and it was being installed to increase reliability in the area.

(Clive VK4ACC) RADAR is the Rockhampton And District Amateur Radio club.

If you have some club news to share. Or an event to publicise. This is the place.

The Amateur Radio pages are your pages. Send your information to

The Editor *Amateur Radio*

PO Box 2175

CAULFIELD JUNCTION VIC 3161

email armag@hotkey.net.au

Fax (03) 9523 8191

Why 50 Ohms?

Bob Harper VK4KNH
PO Box 288 Beerwah 4519

Is 50 ohms some kind of physical standard?

Today we all accept that 50 ohms is the impedance of coaxial cable used in Amateur Radio.

TVs however, use 75ohm coax exclusively (now that 300 ohm ribbon is almost gone) and I have also known 75 ohm TV cable to be used as transmitting cable as well. Indeed the matching harness used to combine two antennas often uses two 3/4 wavelengths of 75 ohm cable connected via a "T" piece to 50 ohm cable. We'll explain why another day.

I have worked on computer networks connected by 95 ohm cable. In fact I worked on one particularly unreliable network, that had been added to on several occasions. On investigation we found that it had a mixture of 50 ohm, 75 ohm and 95 ohm cable -the main cause of their unreliability.

This all begs the question of why those values were chosen in the first place. If there is an optimal value then surely there would be only one; wouldn't there?

Before delving into answers to that question we need to recall how "impedance" of a cable is established. The transmission line is nothing more than two lengths of conductor separated by an insulator. Being conductors also qualifies the lines as Inductors while being separated by an insulator qualifies the line as a capacitor. The dimensions of the conductors and insulators determine the ratio of inductance to iapacitance, which determines the impedance.

The formula is:

$$Z_0 = \frac{1}{\sqrt{e}} \frac{L}{C}$$

$$= \frac{138.16}{\sqrt{e}} \times \log_{10}\left(\frac{D}{d}\right)$$

where Z_0 = characteristic impedance, D = bore of the outer conductor, d = diameter of the inner conductor and e = the dielectric constant of the insulator which for air is one and about 2.3 for polyethylene.

Let us return to the question of why there isn't just one best characteristic impedance.

A cable may have one of several designed uses. It may be required to carry an optimum power, have the lowest possible losses, withstand the highest possible voltage levels or simply have to connect to an existing piece of equipment.

Remember that for lowest losses the cable must match the impedance of the equipment used.

All of these factors occur at a particular ratio of outer to inner dimensions and, as often happens in the real world, each occurs with different dimensions.

Maximum power carrying capacity occurs at a ratio of 1.65:1, which makes the impedance 30 ohms, but with high attenuation losses.

The optimum dimension to avoid voltage breakdown is 2.7:1 or an impedance of 60 ohms. This would be useful not only where high plate voltages are used but also where occasional mismatches result in high voltage nodes. Such cable has apparently been used but I haven't seen or heard of any.

The minimum attenuation occurs at a diameter ratio of 3.6:1, which gives an impedance of 77 ohms. This is why receiving equipment such as TV and FM radios often use 75 ohm cable.

It can be easily seen that although maximum power carrying capacity is desirable, it is incompatible with lowest losses and highest voltage handling characteristics. There is also one other factor that came into play historically. The cables used at the time that these factors were learned were all air-cored and generally of large diameters meant for high power/performance commercial use.

The general plan was to work on 77 ohms and make the cables large enough to handle the power. At higher frequencies, power was simply not available anyway and therefore low attenuation was considered far more important. The connectors were by now standardising and using another dimension ratio was becoming less likely.

The next changes came about with the use of materials such as polyethylene as an insulator. With a dielectric constant of about 2.3 it changed the impedance of a 77 ohm cable to 51 ohms. That is to say that with the same dimensions but using polyethylene as the insulator the impedance changed to 51 ohms. (Z_0=77/+2.3 = 51 W)

This was acceptable because the connectors didn't need to be changed. The resulting cable now has good attenuation, power handling and voltage handling characteristics.

I wish to thank RF Components Pty Ltd, 21 Hill Rd, Birrong 2143 for the inspiration for this article.

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ALARA

Christine Taylor VK5CTY
ALARA Publicity Officer
16 Fairmont Avenue, Black Forest SA 5035
Packet: VK5CTY@VK5TTY

There was an interesting item in the *YLRL Harmonics* magazine that came across my desk this month.

Just as Australia is about to run the last Miss Australia Contest, I have discovered that SCARA, the Southern Counties Amateur Radio Association, runs a radio room at the Convention Hall in Atlantic City for the Miss America contestants.

In the US amateur radio operators have always been allowed to handle third party traffic so one part of the radio room activity is dispatch and receipt of "Pageantograms".

Each of the contestants is supplied with some of these to send out to friends and family. In return they are sent greetings and good wishes from all around through their National Traffic System.

The contestants seem to enjoy the break from their other activities and are often willing to pose with the operators and to share all the little stories of their particular experience so the operators are very much part of the occasion.

Over the years the regular operators have become friendly with many of the Pageant Hostesses who accompany the contestants for the whole of the contest period as these ladies act as hostesses year after year.

The callsign used by the station is K2BR and will be on air from Monday 13th September to Saturday 18th September 1999. Usually there are several positions operating simultaneously, one on CW and one or two on SSB, in the 80, 40, 20, 15 and 10-metre bands.

The QSL cards have a photo of the newly crowned Miss America on them. You might like to add it to your collection. The QSL address is SCARA PO Box 121, Linwood, NJ08221. They also have a website at http://www.cisi.net/k2br.

Last year a crew from CNN was a frequent visitor to the station (it was a totally unfamiliar means of communication to them!) and eventually the station had a 15 second segment in the news.

They chose the time when there was an all YL group operating, Toni N2CYL, Jan KJ4N, Anne KB2CIZ and Gean KN2HXI. Toni is one of the coordinators of the special event station each year.

Some Mini Alarameets?

For the John Moyle Memorial Field Day this year Adelaide Hills Amateur Radio Society, AHARS, ran a station on the 5TY/CTY scrub block up near Swan Reach.

With Jean VK5TSX and Tina VK5TMC and myself as part of the operating crew we had a mini ALARAMEET of our own. With 12 of us to feed the YLs were mostly on kitchen duty but as one of the photos shows we did have a turn at the microphone as well.

Over the Easter break the same venue saw another group of YLs when Meg VK5AOV, Marilyn VK3DMS and Jenny VK5ANW (with assorted OMs) joined me for another thoroughly enjoyable mini ALARAMEET

At the Gosford Field Day, Dot VK2DB and Nancy Karas 'manned' a table shared by the Hornsby Club and ALARA.

The ALARA web page was displayed on the computer. They were delighted to meet up with Val VK4VR, Anne VK4ANN and Fran VK2HLF and to enrol Nina VK2INZ (she also holds DL2DRC at home in Germany).

I hope some of you caught up with Dot on April 24th when she helped to man an International Marconi day station VK2IMD on 10 metres. If not this year, look for her again next year.

In VK5 the regular luncheons at the London tavern (second Friday in the month) had three extra attendees in April, even though the City was particularly busy that day because of the Adelaide 500. My daughter was over from Melbourne with her two little boys.

We are considering a change of venue as changes to the decor has spoiled the atmosphere, but no decision has been made . If you are coming to Adelaide around the second Friday please contact Jean VK5TSX the State Rep for up-to-date information.

If you are in Melbourne around the same time of the month you will be very welcome at the VK3 gathering at the Vista Cafe in Little Collins Street. Bron VK3DYF is their State Rep.

In Perth ALARA meet on the fourth Friday at the Park Hotel in North Perth. Contact Poppy VK6YF for more details. Other states? Let me know!

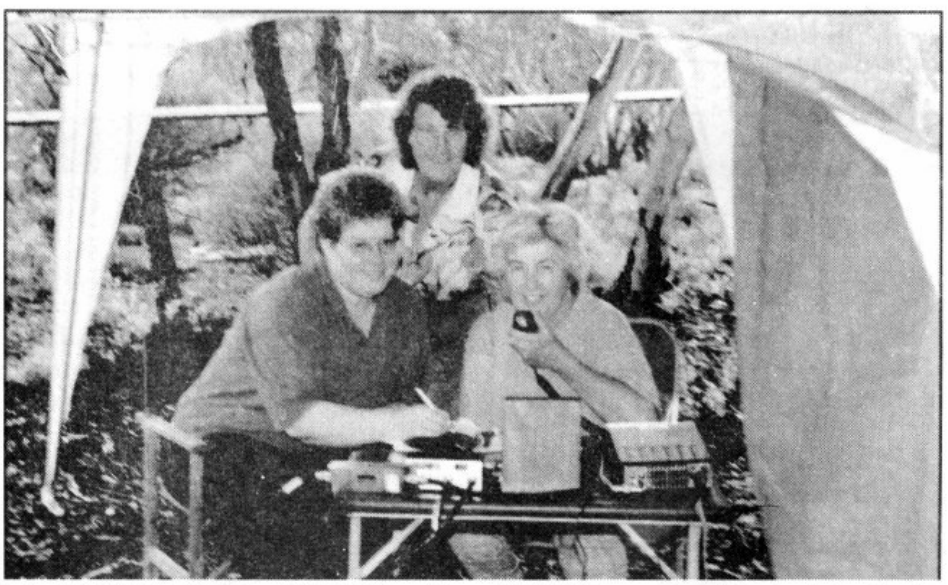
The Alarameet In Brisbane

Plans are well in hand for the gathering on October 2nd and 3rd. Contact Bev VK4NBC for an application form if you think you could be in Brisbane for that weekend.

We usually have an informal dinner on the Friday evening with registration on the Saturday morning. In the afternoon there will be a sightseeing bus tour to Southbank returning in time for the dinner that evening. On Sunday we will have a river cruise and an evening city lights tour.

Proceedings wind up on the Monday morning after which there is an optional tour to the St Helena Island convict settlement.

It is great fun to meet all the YLs we talk to and be able to put faces to voices. I found



Tina VK5TMC, Christine VK5CTY and Jean VK5TSX operating 40m on John Moyle Weekend.

Jean VK5TSX, Christine VK5CTY and Tina VK5TMC at the Barbeque.

it just as much fun at the Adelaide ALARAMEET when, as I still had a Limited licence, I had not talked to the interstaters before -at all.

When I passed my Morse I had a mental picture to go with the voices I contacted. Attending my fifth MEET will be a case of renewing many friendships and hopefully making many new ones.

Most of the YLs will be members of ALARA but we welcome all YLs (and their OMs) who are in the ALARAMEET City. We have had several such "extras" before. Please think seriously about joining us.

If you are coming and have already sent in your application form and didn't include your $15 Registration fee, Bev would like to have those before the end of June as she can put the deposits on the various tours etc.

As well as her address and phone number QTH/R in the Callbook, Bev has an email address for contact at vk4bgc@bigpond.com

Looking Ahead

It is not too early to be planning to go to the International YL 2000 in New Zealand, either.

The venue is Hamilton just over an hour's drive South from Auckland.

The date is Saturday Sept 30th and Sunday October 1st. So far there have been Registrations of interest from Germany, Norway, Svaalbard, and Italy as well as from Australia, the USA and Japan, so it looks very exciting.

The organisers are Carol ZL2VQ, Cathy ZL2ADK, Bev ZL1OS, Jill ZL2DBO and Biny ZL2AZY.

They have a Website at http://www.wave.co.nz/pages/osborneg/yl2000.html and an address c/- Biny ZL2AZY, 550 Kane Street, Pirogia 2450, NEW ZEALAND

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Maria VK5BMT, Tina VK5TMC, Greta Tapps (my daughter) with Mathew on her lap and Raymond beside her, Christine VK5CTY, Meg VK5YG and Jean VK5TSX at the VK5 ALARA luncheon.

OVER TO YOU

Lest We Forget.

I watched the Martin Place Sydney Anzac dawn service with considerable interest (and emotion). It was not until the lesser organisations began laying their wreaths that I realised, where is the WIA?

In all my 53 + years since discharge from WW2 and attending Dawn Services in various cities. I cannot recall a contribution from the WIA.

From WW1 to the recent Gulf War it's a safe bet to say that some amateur, or amateur-to-be or paid up SWL has been 'involved' in communications in some way. It is on this one day, 25th April, we pay (or should pay) our respects to all those of our fraternity who enlisted and served in the half dozen areas of conflict this century.

We are not glorifying war. That's man's greatest obscenity. We are paying our respects to courage, integrity and mateship. The final virtues that can be stopped from no man.

I hope my observations are wrong but if not, how about it WIA? Do better and remove shame. Lay a wreath - Lest We Forget.

Alan Shawsmith VK4SS
1st Aust L of C Signals, Nth Command
Dutch 19th Air Transport Squadron
WIA member 65 Years

Do you have a point of view about some thing you have read in Amateur Radio?

Or about the hobby itself.

Or perhaps some news about people connected with amateur radio.

Share it with us and your fellow amateurs.

These are your pages.

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Fading Away?

'The WIA, is it Fading Away' (AR April 1999) by John Bennett presents views on a range of matters, but I regret, they are views which are unlikely to lead anywhere!

There is an entrenched view about the present structure and organisation of the WIA, and since the majority holds the view, it is a waste of time trying to redesign the WIA organisation. There is too much vested interest and divisional rights involved to allow change. We cannot redesign the WIA as if we had a clean slate.

However, within the existing structure there are a number of steps that might be taken with benefit.

1. The strongest link between the WIA and Hams is through the members and that includes the clubs and groups. Most clubs and groups are members of the WIA. Although there is good communication between the WIA and individual Hams, there is little communication directed at the clubs. One rarely hears a statement directed to the club being read or discussed at club meetings so step 1 is to increase the strength of linkage between the WIA and the clubs. Promote the clubs with publicity material to help attract new members, organise national publicity about Ham radio emphasising the role of clubs and groups. Work with and through the clubs to increase the proportion of Hams who are WIA members. The clubs and groups are the basics of a strong WIA.
2. Develop benefits for membership not only through the magazine and contacts with the world of Ham Radio but look for monetary advantages through organising discounts for WIA members with Dick Smith, Altronics, Jaycar, and all AR advertisers etc. This will have a double benefit in making those store managers aware that amateur radio exists and is using their store. Other discounts are available for corporate groups such as the WIA and we should actively seek out such benefits.
3. Improve the WIA publication record. There are many interesting articles and suggestions in AR. Why not collect the best and publish them under the auspices of the WIA? A good idea in 1980 is probably a good idea in 1999 but has probably been forgotten. For instances the RSGB has several publications which are collections of articles that have appeared in the magazine. The RSGB has shown what can be done.

So, there are 3 steps that I think will strengthen the WIA. They don't require a lot of work and they would improve the performance in a positive way. And they don't require re-organisation and they improve the communications between us Hams.

Ken Fuller VK4KF
PO Box 396
Wynnum Central 4178
Queensland

More Fading Away

May I begin by congratulating you for publishing the extremely interesting article by Mr John Bennett VK3 ZA/VK2SIG, "The WIA, Is It Fading Away". The short answer is "yes it is", as it is currently constituted. This is a very important question, and should be addressed by the WIA at Federal level and within the various Divisions.

Amateur radio is a wonderful hobby and in order to survive in the 21st century, we very urgently need new members to carry on the hobby.

The reformation of the WIA as proposed by Mr Bennett is, I believe, the only way to go. The present system of a Federal body and seven state autonomous divisions is reminiscent of the 1920's.

If we are to survive we must sweep aside all the bureaucratic parochialism of the past. Modern technology and the availability of good quality commercially-made equipment plus the multi-choice examinations system has decisively downgraded the hobby. Never the less it is a wonderful hobby and we must keep it alive and well.

Sooner rather than later I believe the phasing out of CW at commercial level will prove to be a disaster of great magnitude. What we must do immediately is to "take off the kid gloves" and get political for the protection of our bands and frequencies. The gentlemanly discussions with the ACA are very pleasant but they are a facade.

The ACA is an arm of government who implement government instructions, and the present Federal Government cannot be trusted under any circumstances! To adopt a stance of political neutrality would be and is very naive indeed.

In conclusion, I hope the WIA as a whole will transform itself into the model proposed by Mr Bennett. In the meantime I am working on getting on to CW.

Michael Gell VK5ZLC
3/18 Brighton Road
Glenelg SA 5045

Reference "What use would you be...", page 8 of the January 1999 issue by VK6KCH.

I can assure VK6 KCH that WICEN (VIC) Inc, is well and truly ready for activation at any time in the event of communication breakdown.

We have a team of fully trained and accredited members, associated with each police division and working in conjunction with all disaster combat organisations, eg Red Cross, SES, Ambulance, Fire Brigade, etc.

Our members are continuously trained and carry out regular field exercises in various areas. Radio data thus obtained is evaluated, written up, and filed for future reference. Thus we are aware of what type of equipment we require for each part of our district to enable an immediate response to any emergency call.

We can only be activated on a call for assistance from the Chief Inspector of the particular police district, or in the event of evacuation procedures, by the Red Cross, with whom we have set up a packet radio system, to send all details direct to their state headquarters. (NRIS).

In my own division, we have an immediate strike team. To date they have managed to be on site at a disaster situation, within a 30 km radius, within forty five minutes of receiving a call for assistance. This is then followed up by an assessment of the situation by the RCO who then activates as many members as required to handle an ongoing situation, either from his own division if possible, or after notifying the State Coordinator, from other areas.

We in Victoria are held in high regard by the police and in many areas have WICEN aerials set up on police complexes with permanent hook-up points in the disaster control room.

We also have a representative attend local government disaster plan meetings, and members available to speak to various organisations, and groups about the role of W.I.C.E.N. in the community.

Our members are trained to be totally independent of outside requirements, eg. power for at least 24 hours, during which time independent sources can be marshalled.

Yes VK6KCH. Victoria is ready for emergencies, has been tried in the field, and found able to cope, and is continually looking for ways to effect improvements to the system. Yours in Service,

James L Tobias JP VK3MMD
49 Bentons Road
Mornington. 3931 Victoria

This is an individual comment and does not necessarily represent the views of WICEN (Vic) Inc.

WIA Logo Origin

I was recently asked what was the origin and significance of the various components of the WIA logo. The map and scroll at the bottom are self-evident but what about the wings and lightning bolt with roundel in the middle? Doug VK4DUG

Reply:- According to the WIA Book Volume 1, the logo dates from a little before 1922 as Keith Ballantyne VK3AKB related that he received a badge of that design when he joined in 1922.

A version was used in an October 1939 edition of AR that was without Tasmania but Tassy was restored in mid-1947. The Wings and Lightning motif are said to have derived from an Army Wireless Unit of WWI and later formed a part of the RAAF Wireless Reserve emblem authorised in 1935. The oldest known WIA badges date from the 1909-1911 era in Victoria. All included the "Lightning" motif.

Alan Shawsmith VK4SS, in his book *Halcyon Days*, includes a facsimile of a 1929 edition of QTC. QTC is recognised as the oldest magazine published in Australia and indeed in the then British Empire, devoted purely to Amateur Radio.

On the cover is a logo similar to the current WIA logo except with horizontal wings and the letters QTC across the Australian map. Tasmania was included which is, as one would expect of the founding editor, Leo Feenaughty OA4LJ later VK4LJ. QTC ceased production when AR was first produced, to avoid detrimental competition between the two. -

Bob VK4KNH

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73 Neil Penfold VK6NE

EDUCATION

Brenda M Edmonds, VK3KT
PO Box 445, BLACKBURN 3130

It has been brought to my notice that some candidates and invigilators have queried some of the questions on various examination papers.

This is to be expected where an attempt is made to examine a large group of candidates of widely differing backgrounds using a limited range of examination materials.

It is very difficult to write questions that mean the same to (say) an experienced electrical engineer as to a high school student studying an arts course. This is because the more experienced candidate will be aware of a much wider range of situations, which increases the chance of one of the alternatives being considered correct because "it could happen under these specific circumstances".

Those of us who have spent considerable time trying to write multi-choice questions are aware of these possibilities, and have tried to cover all aspects of the course with questions which have one answer which is definitely correct and three which are definitely not correct. The level of "not-correctness" is of course variable. We have tried to avoid asking students to select the "most correct" answer. If some of those have crept in, there will be a clear difference between the right answer and the next.

However, there is in all the papers an overall authority to approve and permit the questions. All the papers are individually approved by the ACA, formerly the SMA, before being used. There have at times been extensive arguments between the ACA and the Examination Committee about the wording of specific questions, modifications have been discussed and questions edited as necessary when necessary.

The ACA considers each question on its own, and in relation to the other questions on the paper, to ensure a balance on the paper and an overall standard between papers are maintained.

We have not as yet received further notification from the ACA about their intent to review the whole examination devolvement scene. Until we do, the WIA Exam Service will continue to administer the examination system for the whole of Australia.

ar

Andy Thomas VK5MIR - South Australia's Cosmonaut

Christine Taylor VK5CTY
16 Fairmont Avenue, Black Forest SA 5035

On Jan 20th I joined a large group of amateurs at the West Torrens Council Chambers to hear Dr Andy Thomas speak about his experience on the MIR Space Station during 1998. When the WIA(SA) approached the acting-mayor, Mr Reece Jennings to hire a venue for this lecture the Council was delighted and undertook all the preparations.

They also chose the occasion to present Dr Thomas with their Civic Award in recognition of his achievements.

In the foyer I spotted several amateurs from Renmark and the Riverland, from Bordertown and Mt. Gambier and from Victor Harbour and Murray Bridge as well as many from the city and suburbs of Adelaide.

We are very proud of the fact that Dr Thomas was born and raised in Adelaide and that he obtained his first degree at Adelaide University.

It was no surprise that he was the featured speaker on December 28th, when South Australia celebrates our founding fathers as Proclamation Day. That he had found time from his family to speak to us was our pleasure and privilege.

One amateur who had played an especially large part in the communications between MIR and earth was Tony VK5ZAI. Tony had been able to arrange a phone patch so that Andy was able to talk directly to his father. They had tried several other options unsuccessfully but the phone patch worked well. It must have been very special for Andy and his father to hear each other's voices.

Tony also told me that it was Andy's father's 75th birthday on 19th January. I wonder how long it is since they have been together for a birthday? Some years, I suspect. Many thousands of miles separate South Australia and Florida.

The official meeting was opened by Ian VK5QX, President of the WIA(SA) Division. Ian had arranged for a Russian, Oleg, to welcome Andy in Russian because it was a Russian Space Station. Oleg is a high-speed telegraphy competition winner. He sent at 50 wpm for 20 minutes with only THREE errors. WOW!

Ian spoke of obtaining the special callsign of VK5MIR for Andy to use during the mission and of some of the South Australia groups (non-amateur) who had also participated via radio, in the mission.

These included the SA Symphony Orchestra, where Andy's picture and voice were part of one performance, live. The opening of a performance at Moonta by the Metropolitan Male Choir, both arranged by Ian himself, and the opening of a night of Go-Kart Racing at Kadina through the effort of VK5ZIB.

Andy also spoke directly to one group of Operation Flinders Foundation, a young offenders rehabilitation program. This is a police run organisation, and as a permanent record of that event they had two photographs for Andy to sign that evening in the West Torrens Council Chambers. These will no doubt have pride of place from now on.

Then Ian VK5QX presented Andy with membership of the WIA (the oldest amateur radio society in the world!), and a new Australian callsign. He is now VK5JAT. To make sure that Andy was comfortable with this new callsign he then had two contacts on air. The first one was with Linden VK5TTL, an 11-year-old, and a second with Darren VK5PJR, a young handicapped amateur. Subsequently the two lads had the thrill of shaking hands with Dr Thomas.

When Andy Thomas spoke to us he told us how after he had flown on the Space Shuttle, *Endeavour*, he heard that they were looking for an astronaut to spend some time on MIR. He thought it sounded interesting so he volunteered to go to Russia and train for such a mission.

He spent a year in Russia, learning the language and learning about the Russian rockets and their space station. At the end of that time he had to sit for and pass a number of exams on the technical details - in Russian! Then he spent another six months actually training for the mission.

At this point we watched a NASA film showing the launch and landing procedures with film inside and from MIR and the US Shuttle vehicles. It was interesting to see and learn about the timing of an actual launch.

Once the crew is all on board and strapped into their seats - lying on their backs - you can hear and almost feel the main engines start two minutes before launch time. These are followed by the solid fuel engines and you have lift off. At this time twelve tons of fuel is being burnt per second!

Two minutes into the flight the solid fuel engines are ejected to return to Earth for re-use. Eight minutes later you are in orbit. After that only bursts of the engines are used to alter the attitude and direct the shuttle correctly towards its rendezvous with MIR.

The two days between launch and

Andy VK5MIR with Meg VK5YG formerly VK5AOV

docking are used for scientific experiments as well as preparation for the actual meeting of the two spacecraft. We were thrilled to watch this all happen from the first sighting of MIR to the lining up of the mating surfaces.

Once Columbia had docked successfully the seals were clamped and the space between the two craft made into an airlock. Despite this all the astronauts were dressed in space suits during the docking manoeuvres. Only when the airlock had been tested were any of the hatches opened. Then the two crews greeted each other with joy.

For the two cosmonauts these were the first new people they had seen for four or five months. For Andy this was the beginning of his 22-week stay aboard MIR. In fact there was an exchange of the Russian cosmonauts carried up to MIR on a Soyuz rocket, shortly after Andy's arrival as there was again a short time after he left the craft. Each astronaut spends about the same length of time in space.

Some of the features of the living in zero gravity were interesting. You sleep in a sleeping bag tethered in space but you don't need a pillow. Your head just lies in the correct position.

Cleaning your teeth must be done very carefully so that no droplets escape. You could easily breath in any droplets. Similarly, no whiskers can be allowed to float away when you shave. Andy also claimed that every day in space was a 'bad hair day'. Your shampoo is the no rinse variety but with no gravity to keep it flat your hair just stands on end.

The MIR (meaning either Peace or World) spacecraft has two side modules called Parada, meaning Nature, about 2 metres across on either side of the central area. One of these was where Andy mostly lived and worked.

Each day any new instructions would come in by radio signal and a schedule of experiments would be conducted. The experiments were mostly either biochemical, concerned with cancer research or melting and/or mixing of material in the special conditions of zero gravity.

All the meals were eaten together in the central section of MIR. The food was all freeze-dried and Andy thought it flavoursome though not all astronauts agree. Most often videos were watched while the meals were being eaten which explained the smiles and far-away looks on the faces filmed as they sat around the table!

All the cosmonauts exercised on treadmills and with other apparatus so as to minimise some of the effects of zero gravity on the body.

Andy claims to have run right across Australia on his treadmill. They constantly tested themselves and each other to add data to the scientific studies of space effects and to keep themselves as fit as possible.

Tony VK5ZAI, Doug VK5GA, Andy VK5MIR (now VK5JAT) and Ivan VK5 HS

During Andy's time on MIR the second two cosmonauts made several space walks to repair the solar panels that were damaged when the unmanned supply vessel made an awkward docking, and to replace a rocket engine at the end of a long tower-like arm.

There are a number of small motors on the main body of MIR used for small adjustments.

These can be refuelled in situ but the rocket engine at the end of the tower had to be detached and replaced with a new one brought up with the latest supplies. To achieve this the space walkers had to first build a platform around the tower so they would have a stable base to work on the engine. This all required a number of space walks, but was eventually completed successfully.

Andy saw 16 sunrises and sunsets each day, did 2250 orbits of the Earth and travelled over 56 million miles (nearly 90 million kilometres).

To repair the solar panels they had to build and attach a brace to stop the panel moving out of the sun and possibly damaging other parts of the craft if it moved erratically. All these tasks have to be practiced and all tools have to be tethered to your person but be free enough to be used as required.

After the film Andy answered all our questions with patience and humour. We learned his opinion of the Russian versus the American space technology and that some of the stories of him having difficulties in adjusting to Earth's gravity after his return were exaggerated.

At the end of the lecture Andy kindly signed all the beautiful brochures provided by the West Torrens Council. I am sure they will be treasured mementos for those there that night.

The amateurs who had had contacts with Andy on MIR were invited to stay for supper with the Council members when they had an extra opportunity to speak to Andy and a chance to obtain personal photographs of the occasion.

Meg VK5YG was delighted that Andy remembered their conversation as clearly as she did even though it was nine months since they spoke. He wanted to know whether or not the mouth of the Murray had actually closed last winter. When they spoke it was in danger of just that.

Mary VK5AMD found that Andy had also remembered her telling him that she had had a handheld tuned to his frequency, lying beside her bed night after night before she actually made the contact. I suspect that was an experience shared by a number of amateurs who made contact in the night hours.

In all, during his 20-week stay on the MIR space station, Andy saw 16 sunrises and sunsets each day, did 2250 orbits of the Earth and travelled over 56 million miles (nearly 90 million kilometres). Even so, he impressed us all with his modesty and the pleasure he felt in sharing his extraordinary experiences with us.

ar

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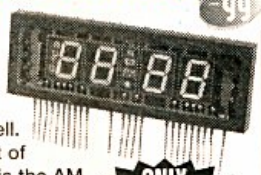

Brand new display designed basically for an oven timer. It can easily, however, be used as a custom clock display. Vacuum Fluorescent displays are very attractive & this one - in green - is as well. 4 digits are 14.5mm high. Each segment of each digit is separately addressable as is the AM annunciator. •98W x 34H x 8Dmm (excluding pinouts, etc). •Factory data is included. Cat. ZD-1875

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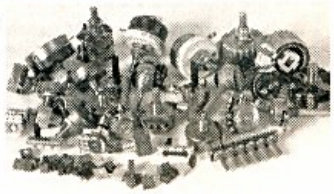

This is not an ordinary pot pack. A pack like this only comes along occasionally. Why? Because many of the pots are not just ordinary pots. They are US made rheostat quality, UK/Aust. made attenuator quality, etc. Many are Japanese made. The balance are high quality standard grade. There are sealed, PC mount, solder tag types. 99% are bushing mount. Nuts are supplied (but not all). Styles include ganged (dual/triple), concentric, switched, tapped log and linear. Brands include Clarostat, Allen-Bradley & Morganite. Some of these pots cost $10 each when originally purchased. Each pack contains 33 pots. Most of the packs are identical. Bonus! Included in each pack is a FREE pack of 30 brand new industrial grade cermet single and multiturn trimpots in 2 different styles (both PC mount) & 10 resistance values! These parts generally cost over $2 each! There is over $200 value in this pack. Quantities limited only 120 packs available. Cat. RP-3900

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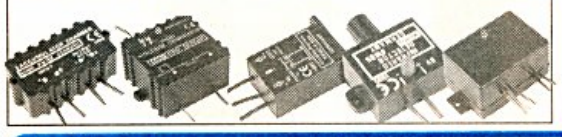

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Signing off • — • — •

Latest technology replaces Morse Code

by Annette Codispoti,
Assistant Editor of "THE INSTITUTE"
Newspaper of the Institute of Electrical and Electronic Engineers
April, 1999 Volume 23 Number 4

After over 150 years of faithful service, Morse code has quietly retired from its role as a consistent and dependable rescuer of ships in distress. After all these years and many advances in communications technology, Morse code is just now being replaced by something better.

The transition began in 1979 with an international effort to improve maritime distress and safety communications. The International Maritime Organisation, a United Nations agency, called for the development of the Global Maritime Distress and Safety System (GMDSS).

The new system, according to the U.S. Coast Guard, is based on a combination of satellite and terrestrial radio services and has changed international distress communications from being primarily ship-to-ship based to ship-to-shore based. All ships subject to the new regulations had to fit all GMDSS equipment by 1 Feb. 1999.

"The introduction of satellites was indeed the turning point," said Joseph Hersey, chief, Spectrum Management Division of the U.S. Coast Guard, and an IEEE member.

"Morse telegraphy remained functional for so long for a number of reasons. It is reliable, it is simple, it works and it can operate at a lower signal-to-noise ration than practically any other radio system," said Hersey.

Samuel FB Morse

But as good as it was, there is always room for improvement. "Some elements of the GMDSS, such as satellite communications, emergency position indicating radio beacons and marine safety broadcasts, have proven themselves over the last 10 years," said Hersey. In 1997 this system saved more than 540 lives in the U.S. alone. "In many of these cases, the EPIRB alert, generated when the buoy automatically deployed from a fast-sinking vessel, was the only alert received. Morse code would have been insufficient in most of these cases," said Hersey. "Had the GMDSS and elements such as satellite EPIRBs been around earlier, ships like the *Edmund Fitzgerald,* which sank suddenly with all hands (Nov. 1975), without warning in Lake Superior, might possibly have been saved."

Not everyone is happy with the new system, especially the radio officers, said Hersey. Under the old regulations every ship had at least one radio officer to manage the telecommunications. With GMDSS this person is no longer necessary. While the Coast Guard does not have accurate figures on false alarm rates for GMDSS systems at this time, they are generally high and they do not know exactly why. One reason may be the lack of training for those using the equipment said Hersey.

Amateurs Hanging On

Ken Botterbrodt (K2WB) is the president of the South Jersey Radio Association in Haddonfield, N.J., the oldest continuously operating amateur radio club in the United States. While he agrees Morse code may be obsolete for the IMO's purposes, it's still a big part of a hobby that he and other amateur radio operators enjoy. "It becomes like music. You recognize the sound," he said.

Learning Morse code is like learning a second language, according to Botterbrodt, and he feels people are becoming less interested. "This is an important mode and I hate to see it die," he said. There are currently five classes of FCC licenses for radio operators and one does not require learning Morse code.

Amateurs like Botterbrodt enjoy the contact with other operators and the knowledge they gain from their hobby. One of the advantages to using Morse code, and perhaps the reason it lasted this long, he said, is that it can work with a very weak signal. It's also easier to communicate in Morse code with someone in another country when accents get in the way.

Morse and Vail

It was January 1838 when Samuel Morse, a painter turned inventor and a widower with two children, successfully demonstrated his telegraph machine at Speedwell Iron Works in Morristown, N.J., USA. Several days later, at the very first public demonstration of the telegraph in Morristown, the machine foreshadowed the connection between transportation and communication systems with a message "Railroad cars just arrived, 345 passengers."

Morse and his associates were pioneers in the practical use of electricity. Just as significant as the technical aspects of his machine was the code itself. Today at Historic Speedwell in Morristown (www.speedwell.org) visitors can learn about the events leading to the development of the first electro-magnetic telegraph and the story behind its inventor and his partner, Alfred Vail, as it is written in a book "At Speedwell in the Nineteenth Century" by Cam Cavanaugh, Barbara Hoskins and Frances D. Pigeon.

Over the years the Morse and Vail families disputed who was the true inventor of the telegraph and Morse code. It all started with an agreement between Morse and Vail in 1837. Vail convinced his family, proprietors of the Speedwell Iron Works, to financially support Morse and help him

Alfred Vail

Continues over

New Clubhouse for Redcliffe

Kevin Jones VK4AKI
Vice President
Redcliffe and Districts Radio Club Inc.

Jota weekend 1998 the Redcliffe and Districts Radio Club officially moved into the Kippa-Ring Guides Hall on a long term, exclusive use basis. A lease was signed to January 2000 and renewable yearly till further notice with an unwritten understanding that if the Guides decide to sell the premises, which is highly unlikely, we will have first option.

The hall was obtained by placing a "Letter to the Editor" in a local newspaper asking about suitable digs. The Guide Group happened to be looking for a means of paying the rates and electricity. The Group has merged with Clontarf Guides and doesn't use the hall any more, due to falling numbers probably brought about by the same social reasons that plague most clubs.

Since moving in we have fitted out the radio room, erected a mast with antennas for HF, VHF and UHF but we must stress that the electronics which makes it work has been designed for portability and is not left on the premises for security reasons.

The new premises has allowed us to expand our operations to have a meeting every Monday night, with two project nights, one packet night, an ATV night and a social evening when a fifth Monday appears. Friday nights take in the AOCP and NAOCP classes on an alternating basis. The Club also makes good use of the facility by operating the WIAQ QSL Bureau every Monday night. Sorting takes place every Wednesday.

Since moving to the new premises our membership has grown to seventy four and we are having an aggressive advertising campaign that is gaining us one or two new members a week.

We've come a long way since the seventies, when we started in a hall in Cornelius Street Clontarf, moved to the Education Centre in Henzell Street then to the Deception Bay High School, all of which we shared with other users so couldn't put down roots. We've finally made it.

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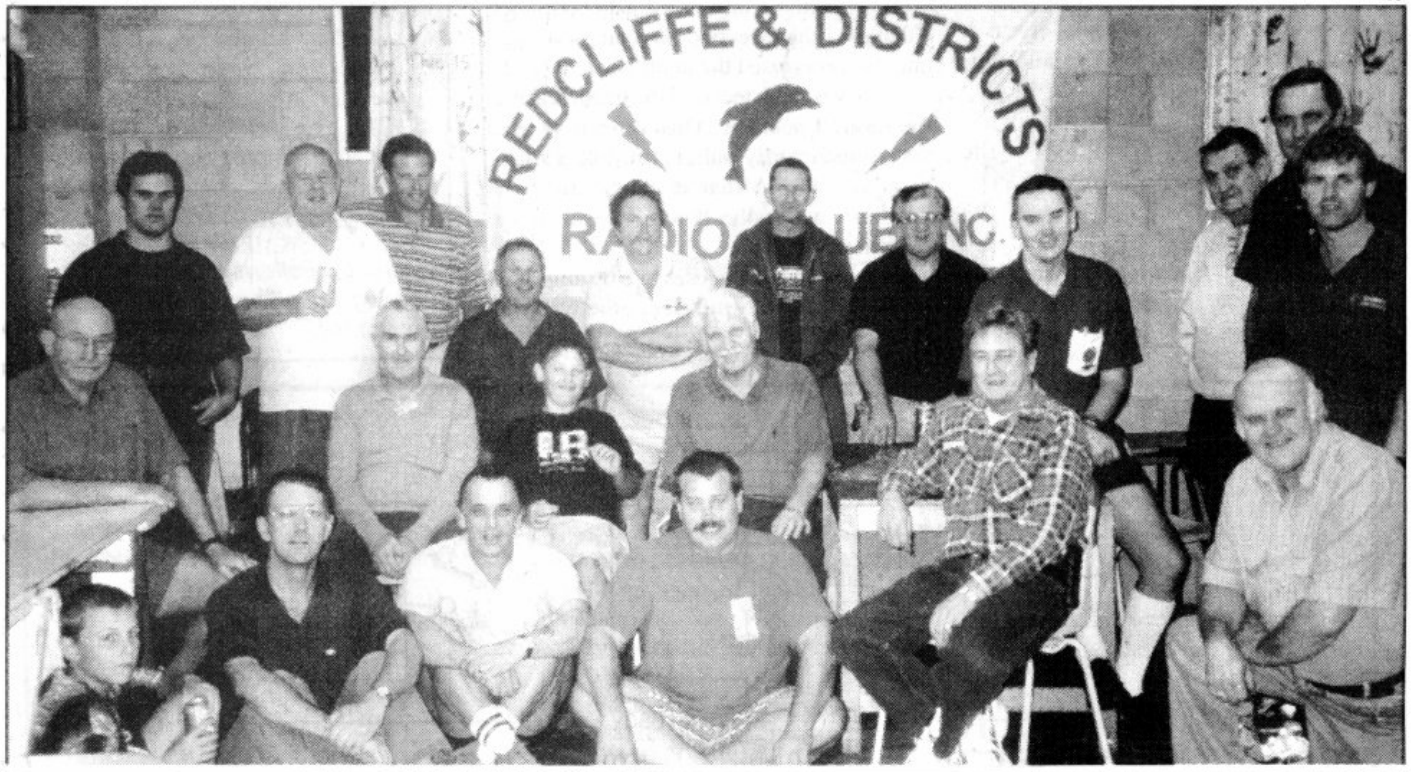


SIGNING OFF CONTINUED

build his machine. Vail recognized the potential in Morse's work where others, even Morse's own brothers, did not. Morse would receive the patent, and all related patents while Vail would receive one-fourth of the U.S. rights.

In the book, supporters of Vail turn to letters written by Vail, Morse, their colleagues and family members as evidence of Vail's contributions. The book even suggests that it was Vail who replaced Morse's numbered dictionary code with an alphabet code employing dots and dashes. "Alfred had made the telegraph practical," it states.

After the first public demonstration of the telegraph, Vail stayed behind in Morristown making revisions to the machine. Morse went to Europe seeking patents and financial backers. He was not successful in Europe, but in 1840 he received the U.S. patent.

In 1844 construction of the first telegraph line from Washington D.C. to Baltimore was completed. At this time many improvements had been made. Almost all of the machine was replaced or revised by the time the telegraph was in public use, and Morse continued to receive most of the credit. Despite the uncertainties, Vail and Morse remained friendly in the years that followed. When others filed lawsuits against Morse over telegraph patents, Vail always stood by him. Their families, on the other hand, were not as friendly. The book states that in 1911 "someone— a grandson, it is believed— engraved on Alfred's monument at St. Peter's Church, Morristown, these words 'Inventor of the telegraphic dot and dash alphabet.'"

AR wishes to thank Annette and the IEEE for permission to reprint this article.

ar

An Automatic Beam Pointer

Barry White VK2AAB
28 Redgrave Road
Normanhurst NSW 2076

OVER THE LAST YEAR I HAVE been operating an FBB Pactor forwarding station, mainly on 20 metres.

However most of the stations I forward to are in directions that are all around the compass. As forwarding takes place every hour it became a considerable burden to have to change the beam heading.

I could have just used a dipole but as three of the forwarding stations are overseas it was not desirable to rely on a dipole. The building of an automatic means of turning the beam was undertaken.

The FBB software provides for the execution of a separate program that can be called from the forwarding file of the connected station.

The FBB software places the callsign of a connecting station as a parameter for the called program.

The program that I wrote is called ROTATOR and is written in QuickBasic.

The hardware uses a kit sold by Dick Smith Electronics catalogue number K2805.

This kit is a parallel port input and output board. I included some of the suggested programming into both versions of my program. The first version read the DC voltage from the arm of the potentiometer, calculated the direction of rotation needed and then energised the appropriate relay.

This was repeated until the beam reached the desired position. This version worked very satisfactorily although it had a major disadvantage in that it halted the FBB program while the beam moved to the desired position.

The second version uses two op amps that are driven by the difference between an

Text continues page 22

```
0278
4.9
VK2AGE,005
VK3WZ,200
VK4FIL,355
VK5ATB,270
VK6TN,270
G0SPO,315
DK0MUN,315
ON0BEL,315
VE7KGW,45
G*,315
DF*,315
DK*,315
DL*,315
DU*,350
I*,315
F*,315
K*,45
N*,45
W*,45
ZL*,98
ZZZZZZ
```

Figure 2 - (Follows this line) Bearing Table Example - Save as Rotator.INI

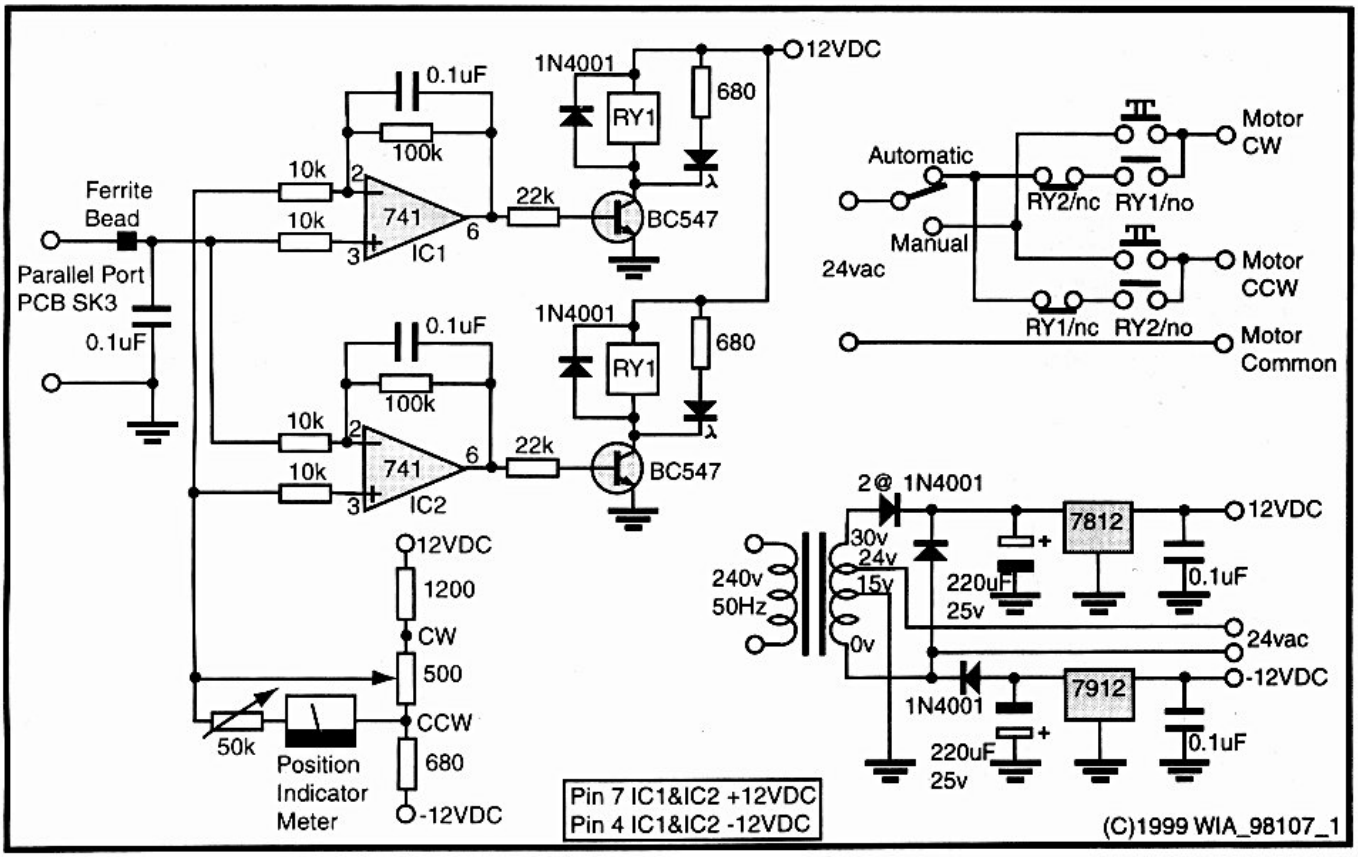


Figure 1Circuit diagram of the Rotator Driver Circuit.

Listing 1 - BASIC program for Rotator.EXE

```
REM PARALLEL PORT IN/OUT CONTROLLER
REM THIS VERSION SETS DC VOLTAGE OUT FOR COMPARISON WITH POT ARM
REM   FSD 4.9 VOLTS MAXIMUIM CLOCKWISE FOR ROTOR
REM Initialisation file may use either callsigns or degrees
SETUP:
    PT$ = COMMAND$
    DIM DIRNUM%(100)
    GOSUB TURNON
   IF PT$ < "A" THEN DIRNUM%(0) = VAL(PT$): I = 0: GOSUB WIO: END
    GOSUB TABLE
REM     INPUT "Callsign "; PT$
    GOSUB GETCALL
    END
    '-------------------------------------------------------------------
    'This routine sets up the callsign & prefix table of bearings
TABLE:     DIM CALL$(100)
    OPEN "ROTATOR.INI" FOR INPUT AS #1
    LINE INPUT #1, PTR$
    LINE INPUT #1, FSD$
LDIT:  FOR L = 1 TO 99
    IF EOF(1) THEN GOTO BEAR
PTLST:  ' SETUP CALLSIGN & PREFIX TABLE
    INPUT #1, CALL$(L), DIRNUM%(L)
    IF EOF(1) THEN GOTO BEAR
    REM DIRNUM(L) = VAL(DIRECTION$(L))
     IF DIRNUM%(L) > 360 OR DIRNUM%(L) < 0 THEN PRINT "ERROR LINE "; L
DLST:  NEXT L
    RETURN
    '-----------
   'This part of the routine is for testing. To be removed
BEAR:  CLOSE
    CALL$(L) = "ZZZZZZ"
REM     FOR I = 1 TO L
  REM   PRINT CALL$(I), DIRNUM%(I)
   REM  NEXT I
    FSD = VAL(FSD$)
    RETURN
    '-------------------------------------------------------------------
GETCALL: 'This routine picks up the requested callsign's bearing
    FOR I = 1 TO L
    FOR K = 1 TO LEN(PT$)
    IF MID$(CALL$(I), K, 1) = "*" THEN GOTO WIO
   IF MID$(CALL$(I), K, 1) <> MID$(PT$, K, 1) THEN GOTO GC1
    NEXT K
    GOTO WIO
GC1:     NEXT I
    PRINT "CALL OR PREFIX NOT FOUND"
    RETURN
WIO:
    IF DIRNUM%(I) > 180 THEN V = (DIRNUM%(I) - 180) * .0136
    IF DIRNUM%(I) <= 180 THEN V = (DIRNUM%(I) * .0136) + 2.45
    PRINT V
    GOSUB VSET
    RETURN
    '-------------------------------------------------------------------
TURNON:
   'DEFINE THE PRINTER PORT BASE ADDRESS & TURN BOARD ON
    REM PTR$ = "&H" + PTR$
    REM BASE0 = VAL(PTR$)
    REM PRINT "BASE0= "; BASE0
    'SWITCH POWER ON
    BASE0 = &H378
    DIM V(12)

    OUT BASE0, &HA0
    RETURN
    '-------------------------------------------------------------------
SETDIR: 'This routine sets the output voltage
       'ENTER THE DAC NUMBER AND THE VOLTAGE
       INPUT "ENTER THE NUMBER OF THE ANALOG OUTPUT TO BE SET0/1"; N
    IF N < 0 OR N > 1 THEN GOTO SETDIR
    INPUT "ENTER O/P VOLTAGE 0 TO 5"; W

     V = W
VSET:     IF V > 4.98 THEN
        V = 4.98
    ELSEIF V < 0 THEN
        V = 0
    END IF
    V = CINT(V * 51.2)
    D0 = -V * (N = 0)
    D1 = -V * (N = 1)
    '
    'SEND 8 CLOCK PULSES & DIGITAL O/P DATA
    FOR BIT = 1 TO 8
    OUT BASE0, &H82
    OUT BASE0, &H80
    NEXT BIT
    '
    'SECOND 8 CLOCK PULSES & DAC1 DATA
    FOR BIT = 9 TO 16
    B = 16 - BIT
    BYTE = ((D1 AND 2 ^ B) / 2 ^ B) OR &H80
    OUT BASE0, BYTE
    OUT BASE0, BYTE OR 2
    OUT BASE0, BYTE
    NEXT BIT
    '
    'SEND THIRD 8 CLOCKS & DAC0 DATA
    FOR BIT = 17 TO 24
    B = 24 - BIT
    BYTE = ((D0 AND 2 ^ B) / 2 ^ B) OR &H80
    OUT BASE0, BYTE
    OUT BASE0, BYTE OR 2
    OUT BASE0, BYTE
    NEXT BIT
    '
    IF N = 0 THEN
        'LOAD DAC0 LATCH
        OUT BASE0, &H84
        OUT BASE0, &H80
    ELSEIF N = 1 THEN
        'LOAD DAC1 LATCH
        OUT BASE0, &H88
        OUT BASE0, &H80
    END IF
    'ENABLE ALL LATCHED OUT PUTS
    OUT BASE0 + 2, 11
    RETURN
    '-------------------------------------------------------------------
REM     THIS ROUTINE IS FOR READING ADC INPUTS

READIT: 'DEFINE PRINTER PORT
    BASE0 = &H378
    REM DIM V(12)
    'POWER ON & DESELECT
    OUT BASE0, &HA0
    CLS
RD:   LOCATE 1, 1
    INPUT "WHICH INPUT 0-11 "; NI
    IF NI < 0 OR NI > 11 GOTO RD
    VI(NI) = 0
    CYCLE = 0
CYCLESTART:
    CYCLE = CYCLE + 1
    OUT BASE0, &H80 'SELECT TO IC 4
    VI = VI OR (INP(BASE0 + 1) AND &H10) * &H8 'READ BIT 7
    'SEND INPUT ADDRESS MSB & READ DATA
    FOR CLK = 1 TO 4
     ADDRESS = &H80 + &H40 * (NI AND 2 ^ (4 - CLK)) / 2 ^ (4 - CLK)
    VI = VI OR (INP(BASE0 + 1) AND &H10) * (2 ^ (8 - CLK)) / &H10
    OUT BASE0, ADDRESS
    OUT BASE0, ADDRESS OR &H2
    OUT BASE0, ADDRESS AND &HFD
    NEXT CLK

    'SAMPLE AND HOLD
    FOR CLK = 5 TO 8
    VI = VI OR (INP(BASE0 + 1) AND &H10) * (2 ^ (8 - CLK)) / &H10
    OUT BASE0, &H82
    OUT BASE0, &H80
    NEXT CLK
    'CHIP DESELECT
    OUT BASE0, &HA0
    DO WHILE TEST = 0
        TEST = INP(BASE0 + 1) AND &H40
    LOOP
    '
    IF CYCLE = 1 THEN
        VI = 0
        GOTO CYCLESTART
    ELSEIF CYCLE = 2 THEN
        VI(NI) = VI
    END IF
    CLS
    LOCATE 2, 1
 IF NI < 10 THEN PRINT "VI("; NI; ")="; CINT(VI(NI) * 100 / 51.2) / 100; "  "
    IF NI = 10 THEN PRINT "VI("; NI; ")="; V(NI) / 10
    IF NI = 11 THEN PRINT "VI("; NI; ")="; VI(NI)
    RETURN
```

analogue output from the parallel port board and the voltage from the arm of the rotator potentiometer.

By using this method the program is called only for about 1/4 a second as needed to read the bearing table, calculate the needed output voltage and set the analogue output of the parallel board to the desired bearing.

The program takes the callsign of the station, looks up a table of callsigns or prefixes and finds the bearing.

When FBB is initiating the call to another station, the bearing can be used instead of a callsign. This can be important, as the bearing may be different depending on time of day and the use of long and short paths.

The first entry in the table gives the printer port and the second is the voltage for full-scale output at the fully clockwise position of the rotator.

As every rotator indicator I have seen has the end stops at south the program assumes that both zero and maximum output voltages are south.

One of the two op-amps gives a high output depending on whether the rotator has to go CW or CCW to drive the potentiometer arm to the same voltage as the parallel board output.

The op-amp circuit is shown in figure 1. LEDs are used to indicator the direction of rotation. Figure 2 is an example of the bearing table. Listing 1 is the QuickBasic program.

I have a problem with my control box in that when the voltage difference comes close together both relays may energise or still receive some drive from the op-amps.

This is caused by my use of unshielded cable between the rotator and the shack. If I was doing a new installation I would use three core shielded and sheathed cable.

When the circuit is in balance there is 50 cycle hum on the op-amp inputs. The motor contacts of the relays are fed through the normally closed contacts of the opposite relay so that the rotator is not driven if both relays are energised.

There is a second effect of this hum in that there is a dead band of about 10 degrees in which the beam may come to rest. However as my TH3 is nowhere near as sharp as 10 degrees it does not matter.

The parallel port board has a maximum on its analogue output of 4.95 volts.

Because of this the rotator pot should go from 0 volt at the CCW end to 5 volt at the clockwise end. If the rotator pot is not 500 ohm then the resistors in series with the pot will need to be adjusted to give that range.

The first entry in the bearing table is the fully clockwise voltage output from the rotator potentiometer.

A meter is used as an indicator of the beam position.

Two push buttons are used to give manual control from the front panel. A switch disconnects the relays and enables the push buttons.

The transformer used is from Dick Smith Electronics and is catalogue number M1991.

If you use this transformer note that you cannot earth the motor leads anywhere due to the same windings being used to provide the + & - 12 volt supply.

The relays used are also from DSE and are catalogue P 8012.

Vero board was used for the op-amps, power supplies and relays.

Setting up the program and hardware is quite straightforward.

Put the auto/man switch into manual and rotate the beam to the CCW south position. The voltage on the arm of the pot should be 0 volts, or very close to that.

Each degree is .014 volts so a small error is of no great consequence. Then rotate the beam to its clockwise stop and the arm of the pot should be near 5 volt.

If the reading is greater than 4.98 you will have to adjust the resistors each side of the potentiometer as you will not be able to reach due south.

If you have less than 4.98 and send it to 180 degrees the rotator will lean on its stop and keep power on the motor.

As an aside, some years ago a book fell onto my rotator control box switch and sent the beam around to the stop and burnt out the motor.

I then fitted stop switches inside the rotator housing. This is quite a straightforward modification to a KR400 rotator.

However it is necessary to shift the starting capacitor up into the rotator. It fits quite nicely. It is an easy job to rewind the motor.

Enter the reading you get from the clockwise position into the second line of the ROTATOR.INI file. This will set into the program the bearing voltage for due south.

To call the program give the command "ROTATOR 95" and this will send the beam to 95 degrees. If the beam goes the wrong way reverse the connections to the motor.

For FBB sysops enter into your forward files "X ROTATOR <callsign>" or "X ROTATOR 010". You also need to insert the line "XC ROTATOR <callsign>" or bearing in the forward file. This last line will operate when the other station connects to you.

If it is being used other than in FBB give the DOS command ROTATOR 270 for the beam to go the west.

At present the program only handles the rotator but I am now extending it to enable the switching of antennae by using the addressable bits output to drive relays.

ar

Silent key

John Purssell VK2AIN

John Purssell, VK2AIN, became a silent key suddenly on the 12th of March 1999 aged 84 years. First licensed 62 years ago; he joined the Institute as soon as he got his licence.

A quiet unassuming man, he was active on the bands right up to the day of his passing.

A number of radio amateurs owe their licences to his quiet insistence that they learn, and one in particular vows that he owes his life to the fact that as a radio operator in World War II he was able to avoid capture and the forced marches of the POW's.

John, VK2AIN will be sadly missed.

Advised by Barry Purssell (his son).

See also page 55

The WIA regrets to announce the recent passing of:-

J. R. PURSSELL VK2AIN

R. W. G. CHALMERS VK3ARO

F. S. G. (Stan) CUNDY VK3NVR

R .J. ANSON VK3PRJ

V. (KEITH) SCOTT VK3SS

L. KOLK VK3ZLK

L.S. (SAMUEL) DRAKEFORD VK4EKK

M. C. BOLTON VK6MB

General Purpose Amplifier/MikeTester/ Power Supply

Drew Diamond, VK3XU
45 Gatters Rd
Wonga Park, 3115.

It seems that almost daily I hear on-air exchanges which go something like this; "Bill, I'm going to plug in another mike. I want you to tell me how it sounds...(pause)...Now this is mike number one..."

And occasionally it's like this; "I'm sorry Tom, your signal is breaking up. Sounds like you've got a crook mike..." Rather than rely on (perhaps inaccurate, or misleading) reports from other stations, it would be much better, and handier, if communication microphones could be checked right there in your own shack.

One of my most regular correspondents, Max VK2ARZ, in his various activities, has often had need to test and repair radio mikes, and has made several mike testers. His most recent device was extended to provide so many handy facilities that he has called it his "Topsy Tester". Drawing largely from his experience and suggestions, I have cobbled up the following outfit, which finds use as;

- a general-purpose audio amplifier (for signal tracing, receiver work, etc.),
- microphone tester with PTT checker (but not carbon mikes),
- headphones tester,
- stand-alone speaker,
- +12 Vdc 1 Amp power supply,
- +5 Vdc 1 Amp power supply (optional),
- continuity tester (optional).

For ease of duplication, I have used an ordinary LM-386 audio IC as amplifier. The N-4 version of this chip, at an input signal level of 6 mV can supply about 150 mW undistorted output power into 8 ohms. Electrical frequency response (at 6 dB down) is from about 100 Hz to well over 10 kHz, which, when applied to a decent speaker, is adequate for just about all those routine service jobs around the shack.

Construction

Once again I've cheated a bit, and used a rather nice metal box obtained at a recent hamfest. It measures 180 x 120 x 155 mm WDH. You could probably squeeze your model into something smaller, but, if the device is going to provide full advantage, then a reasonably sized and rated speaker should be included.

Most of the components, including '386 chip and rectifier bridge are mounted upon a piece of plain printed circuit board measuring 80 x 80 mm.

The '386 is fitted into a wire wrap socket, which in turn is mounted paddyboard (Ref. 2) fashion to the main board.

Layout is not especially critical, and any other wiring method that you prefer should be satisfactory, but remember that input circuitry should be well isolated from output wiring, the speaker and output connectors are on t'other side of the sub-chassis depicted in Photo 2. Note also the screened wire used for the input connections.

The power transformer, generic type 2155, may be mounted in the box towards the rear, and the three leads of the secondary (15 V centre-tapped, or 7.5-0-7.5) brought up to the circuit board "sub-chassis" as shown. The 7812 and 7805 regulator chips must be mounted upon the chassis (or sub-chassis) to provide heatsinking.

As there are multitudinous pin-outs and connector types, the connections for the mike socket must be left to you. For my own model I have taken the easy way out, and provided, in addition to plain terminals and BNC connector, a tip-ring-sleeve phone style socket.

Shown is an adaptor to provide conversion to the common 4-pin mike style. An ordinary 35 mm film canister is drilled at one end to take a phone plug- wires soldered on, then part filled with auto body filler (or similar epoxy). The 4-pin mike socket is fitted into the lid, wires soldered on, then, when the epoxy has set, snapped together.

I've been a bit lazy (and stingy) with this project, and not installed a mains on/off switch, as I have found that in practice they are rather redundant.

However, if you wish to have one, use a DPDT type (that is; switch both line and neutral of the mains). Operationally, it is a

Photo 1 The Amplifier/Power supply with adaptor module for four pin microphone.

good plan to use an IEC style 3-pin mains socket and cord, which is tidy and permits easier storage.

Adequately cover all exposed mains connections to prevent accidental contact, and include a 250 mA fuse in the line/active side.

The continuity test is optional, athough with the PTT LED already installed, it is only a matter of fitting an extra pair of terminals or banana sockets to take your existing multimeter leads.

Operation

Before switching on, check all wiring, component locations and their polarity where applicable (no bangs please!).

Upon switch-on the LEDs for the +12 and +5 Volt supplies should glow. You may hear a faint hum or buzz from the speaker. Turn the gain to maximum, then touch a screwdriver blade to the input terminal.

You should hear a loud hum or buzz, indicating that the amp is working. Some typical voltages are shown on the circuit to aid in any necessary trouble-shooting.

Plug in a suitable mike. Adjust gain as necessary.

Your voice should emanate reasonably loud and quite undistorted. Operate the PTT button on the mike (if fitted). The PTT LED should glow. Fortuitously, because the PTT ground shares the mike ground, any intermittent connections in the PTT circuit will be heard as a crackle in the speaker.

So, when testing a mike, always remember to give the cord, particularly where it enters the connector and hand-piece, a gentle pull and a wriggle to show up any faults in these. In comparative mike testing, you may have to use headphones to get a more accurate idea of how your voice actually sounds "on-air".

The rest is pretty well self explanatory. If you have installed the +5 V supply, remember that the maximum total current drain is one amp.

So, if you have a load on the 12 V supply which draws 500 mA, then you can only take 500 mA from the 5 V supply.

By plugging into the speaker phone socket, wired as shown, the amp. is cut off, making the speaker available as a stand-alone load for other devices.

References:

1. Correspondence with Max Riley, VK2ARZ.
2. "Paddyboard" Circuit Construction; D. Diamond, *Amateur Radio* Feb, '95.
3. National Semiconductor *Linear Databook*.
4. Bench Amplifier; R. Evans, *Electronics Australia*, Apr. '88.

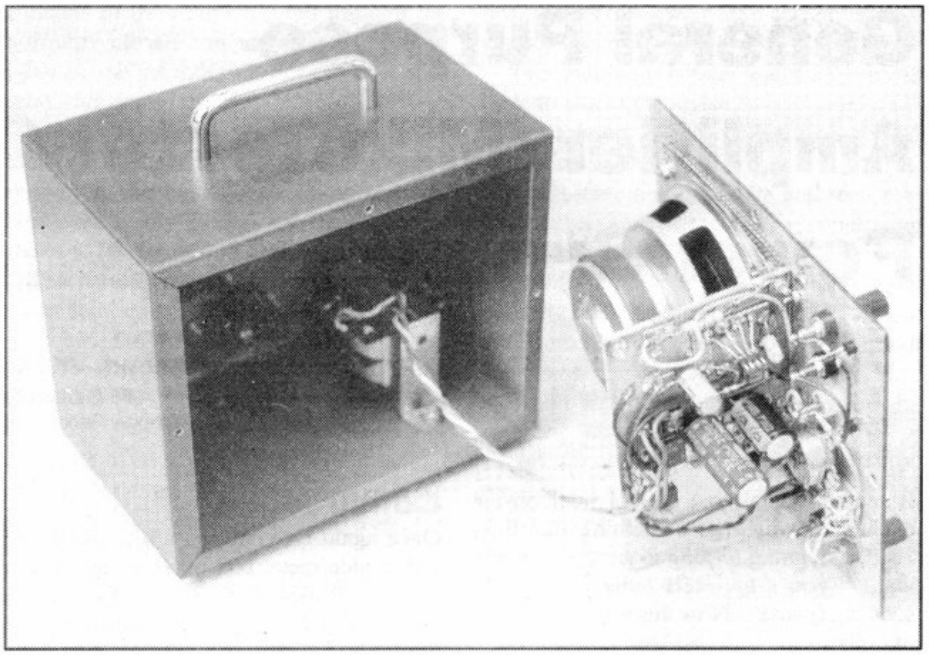


Photo 2 Inside the box showing transformer placement behind the Speaker

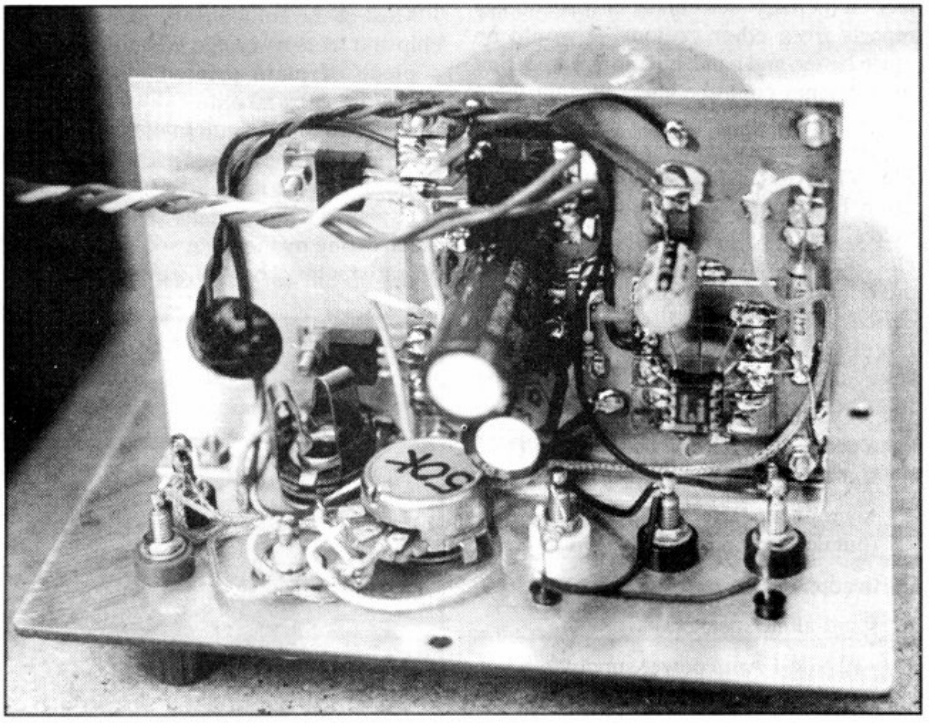
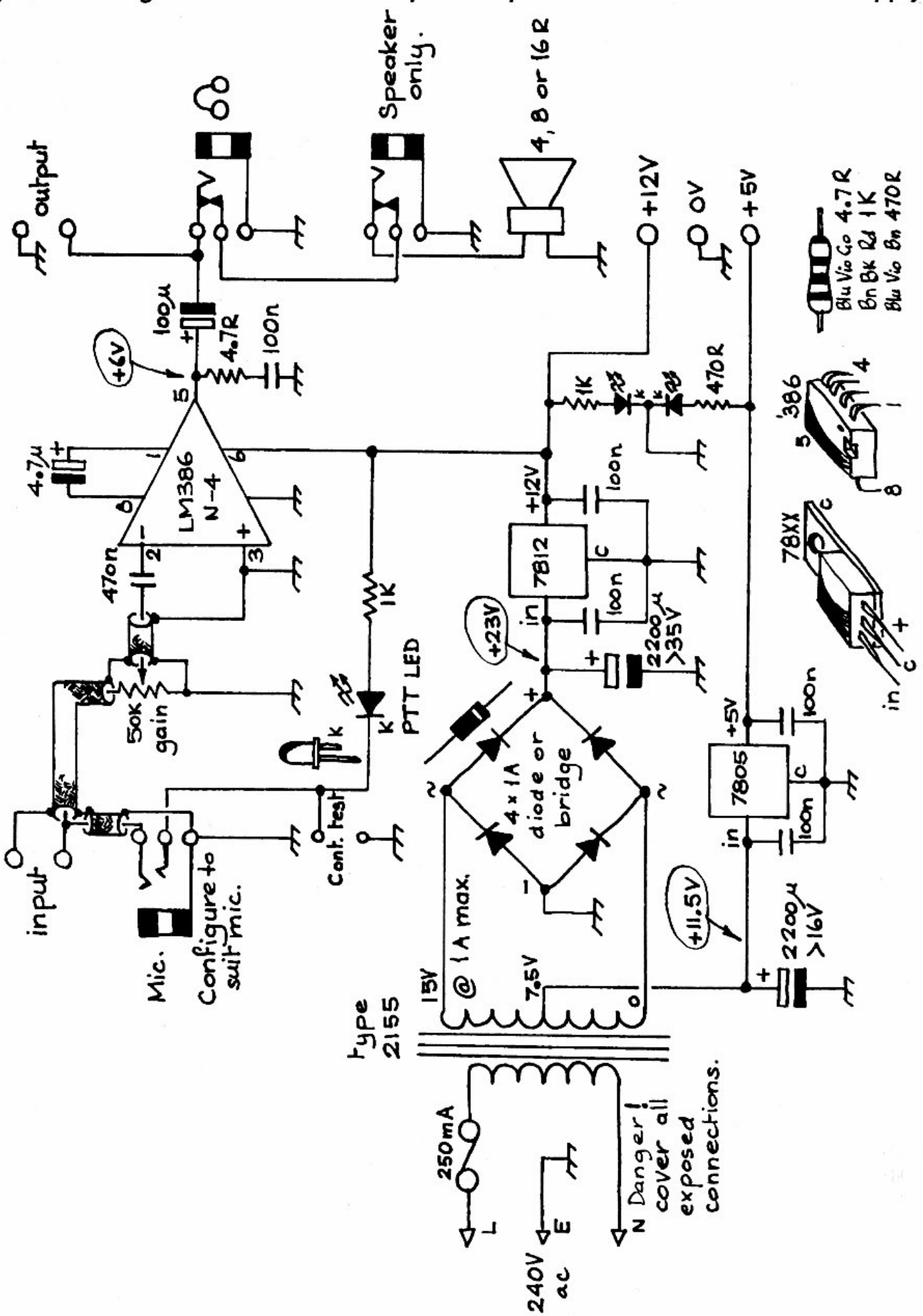


Photo 3 Construction of the electronics - paddy board style

Fig.1 Circuit diagram of the General Purpose Amplifier/Mike Tester and Power Supply



A HF Complex Impedance Analyser.

Ralph Holland VK1BRH
8 Hardy Place Kambah ACT 2902

Introduction

I recently saw a new Complex Impedance Analyser advertised on the web and was impressed by its features. The unit is called the CIA-HF (part number 5012-5000) built by AEA, a division of Tempo Research Corporation, Vista California.

The CIA-HF is microprocessor controlled, contains a DDS synthesiser (400kHz to 54MHz accurate to 200Hz) with a low power impedance bridge (1000 to 0 ohms 2.5 digits or ±0.1 ohms), an LCD graphical display, keypad and computer interface. The unit is completed by an instruction manual that describes all operations, how to construct simple RF accessories, how to perform measurements such as check coax for shorts, open-circuits and power-loss and how to wire the external computer interface.

The unit is powered by 8 AA batteries (not included) and is connected to the RF load devices via an SO-239. External power can be applied via a jack and the computer interface is provided by a 3.5mm stereo audio socket.

The CIA-HF is housed in a robust grey plastic case and is provided with a flexible adjustable stand.

A photograph of the CIA-HF has been provided in Figure 1 and the manufacturer's specifications are listed in Table 1 and scale factors in Table 2.

Figure 1 shows the Impedance display in expert mode connected to my 80m fan-dipole, which is fed via a voltage-mode balun and open-wire line of some 15m length. The display has been set to the centre frequency of 7.0MHz with 1MHz per division.

The 80m resonance is indicated as a little low, being 3.0MHz, but at 3.5MHz the impedance is closer to 50 ohms. At 7.0MHz the impedance is indicated as 9.7 ohms, zero reactance – so I guess I may turn the balun around and alter the antenna somewhat!

Incidentally, this fan dipole has useful re-resonances at 10.MHz, 14MHz, 24MHz and 29MHz – that was why I constructed it. It is an excellent performer on 14MHz and the balun is switchable from 1:1 to 4:1 to cope with the variation in the feed-point impedance.

Operation

The CIA-HF is very simple to drive and is a versatile instrument that can be employed to measure antenna impedances, SWR, baluns, coaxial stubs and can also be used to locate shorts or open circuits in coaxial transmission lines.

It has two fundamental modes. The regular mode -for basic antenna impedance and SWR, and the expert mode -that offers many additional features.

The CIA-HF keypad is a membrane pad with five function keys, a numeric pad and the special keys marked: on/off, width, freq, enter and exam/plot. The width and freq keys are divided between up and down functions as marked by the arrows (See figure 1.)

The centre frequency (Fc) can be entered via the numeric keypad and adjusted up or down by the freq key. The width key is used to increment or decrement the frequency display divisions, which are offered in: 1MHz, 500kH, 200kHz, 100kHz, 50kHz, 20kHz, 10kHz and 0kHz per division. The 0kHz per division is used to provide an audible SWR indication at the centre frequency so you don't have to look at the display to adjust an antenna – a useful feature!

- F1 provides access to the set-up menu, which contains numerous options and a battery voltage indicator, which can be used to check the internal and external power supply.
- F2 toggles a graphics display grid overlay to help line-up values with the scale indicated on the right-hand-side.
- F3 chooses various display items – called data blocks.
- F4 changes the display scale on the right-hand-side.
- F5 permits selection of different graphical displays.

In the regular mode F5 toggles between the graphical display of SWR or Z while F3 toggles between three basic data sub-displays rendered below the graph and indicating:

- the Z, R, X and phase of the load at the centre frequency (Fc)
- the SWR and return loss (RL) at Fc
- the display horizontal interval (W) and Fc.

In the expert mode F5 chooses the graphical displays:

- SWR
- Z
- X
- R
- Vector (V) display of phase angle (left capacitive and right inductive, vertical bar real).
- Data which contains numeric values for Fc, R, SWR, X, RL, Z, BW2.dB, phase, Q, C and L.

While in the expert mode F3 toggles the sub-display through:

- W and Fc
- SWR and RL
- Z, R, X and phase
- Inductance and Capacitance at fc
- 2dB Bandwidth and Q
- 2:1BW
- 3:1 BW
- 1.5:1 BW
- Min SWR search enunciated at some frequency.
- Normalised Z (as R +/- J) referred to 50 ohms.

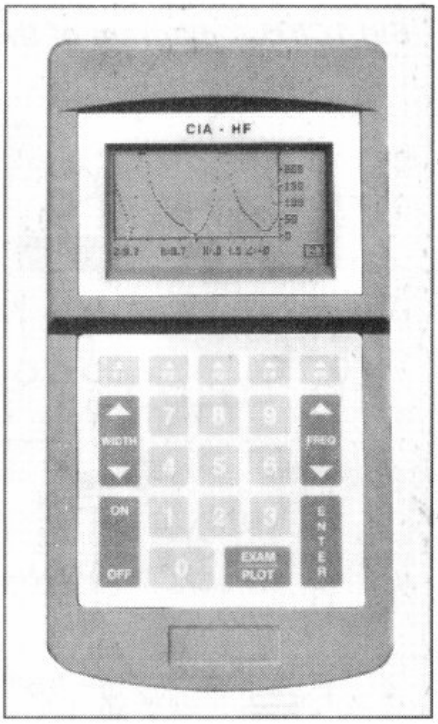


Figure 1. CIA-HF displaying 80m fan dipole, Fc=7.0Mhz, W=1Mhz / .Division.

- Lower frequency, centre frequency (Fc) and upper frequency
- Fc +/- range
- Fc, Velocity Factor and Feet to short or open circuit.

Specifications

Table 1 contains the manufacturer's specifications, while table 2 illustrates the display scales provided by F4 in the various modes.

Uses

This is an invaluable piece of equipment because it provides a portable hand-held accurate impedance bridge with an internal, agile and accurate signal source.

The synthesiser can be programmed to span 400kHz to 54MHz in steps of 1KHz – which is adequate for most RF measurements from the Broadcast band right across the HF spectrum and up to 54MHz.

When I measured a home-made dummy load it indicated 50.3 – 49.3 ohms between 1 - 54MHz – proving that the unit would extend to the 6m band.

The unit may be used in place of the following equipment:

- SWR meter
- Lower power signal source (when set to 0kHz).
- Lower power ATU tuning.
- Coaxial Velocity Factor meter.
- L, R, C meter
- Impedance bridge (R, X, phase)
- Time domain reflectometer (for determining coaxial shorts and open circuits).
- Transmission stub resonator – both _ and half-wave.

I intend to use mine for antenna and other RF research.

Computer Interface

This unit can be driven and sampled via the computer interface using a simple set of commands that have been included in the instruction manual.

I was informed, during my correspondence with two representatives from AEA (both Amateur Radio Operators), that software has just been developed for the computer interface. I am not sure of its availability, but the prototype software executes on an IBM compatible PC running Microsoft Windows.

The connection of the CIA-HF to a computer would be a worthwhile extension to this instrument being a very useful combination that would provide laboratory-grade data capture with the capability to perform data reduction and display. For example the unit could be used to sweep for areas of interest and then the resolution could be programmed to 1kHz steps to resolve fine details.

As the command-set is so simple I am looking at developing my own software suite to drive this useful instrument so I can carry on with research – yet another project!

I highly recommend this item of equipment if your budget is capable – contact the representative provided below in the footnote.

AEA is a division of Tempo Research, the web address is

http://www.aea-wireless.com.

The CIA-HF may be purchased from the local dealer:

Ham Radio World

http://www.hamradio.com.au.

Telephone (07) 5464 3954, fax (07) 54643963.

Contact

Ralph Holland, 8 Hardy Place, Kambah 2902. mailto:vk1brh@dynamite.com.au

http://www2.dynamite.com.au/vk1brh

ar

Table 1. Specifications:

Item	Spec
Frequency range	0.4 to 54MHz
Resolution	Increments of 1KHz
Accuracy	± 200 Hz
Display width	0 to 10MHz
Harmonics and spurious output	< -30 dB
SWR Impedance	50 ohms
SWR range	20:1
Impedance and Resistance ranges	0 to 100, 0 to 250, 0 to 1000 ohms
Return Loss range	-1 to –40 dB
Phase angle	-90 to +90 degrees
Q Factor range	1 to 1000 (defined as 2:1 BW/Fc)
Measurement speed	1.2 seconds per sweep
Antenna connector	SO-239
Output power	<5mW into 50 ohms
DC voltmeter	2.5 digits ±10%, 25 volts max.
Power requirements	8 AA cells, 12 to 16 VDC @ < 150mA
Size	110W x 57H x 216L (inc connector) (4.3"W x 2.25"H x 8.5"L)
Weight	740gms (1bl 10oz) (including batteries)

Table 2 includes the various scales where provided by F4

Item	Scale 1	Scale 2	Scale 3
SWR	18:1 to 1:1	6:1 to 1:1	2.8 to 1:1
Z (ohms)	1000 to 0	250 to 0	100 to 0
X (absolute ohms)	1000 to 0	250 to 0	100 to 0
R (ohms)	1000 to 0	250 to 0	100 to 0

FOR ALL YOUR COMMUNICATIONS NEEDS

$299

Revex W570 HF/VHF/UHF SWR/PWR Meter

Top of the line performance! The W570 provides switchable 1.6-160, 400-525, 700-1100 and 1240-1300MHz coverage, with measurement of 3 power levels (5,20,200W) and SWR. The external UHF sensor uses N-type sockets with remote mounting for easier cable connection to the meter. Measures 120 x 80 x 155mm.
D1377

Rugged HF 5-Band Trap Vertical Antenna

The rugged 5BTV incorporates Hustler's exclusive trap design (25mm solid fibreglass formers, high tolerance trap covers and low loss windings) for accurate trap resonance with 1kW (PEP) power handling.
Wide-band coverage is provided on the 10, 15, 20 and 40m bands (SWR typically 1.15:1 at resonance, <2:1 SWR at band edges) with 80kHz bandwidth typical on 80m at 2:1 SWR. An optional 30m resonator kit can be installed without affecting operation of other bands. High strength aluminium and a 4mm (wall thickness) extra heavy-duty base section guarantee optimum mechanical stability.
At just 7.65m, the 5BTV can be ground mounted (with or without radials, although radials are recommended), or it can be mounted in an elevated position with radial system. Unlike other antenna designs, the 5BTV can be fed with any length of 50-ohm coax cable.
D 4920

$449 HUSTLER

30m Resonator Kit

Adds 30m coverage to the 5BTV and includes all hardware.
D 4921 **$99.95**

BONUS OFFER! Purchase the 30m-resonator (D 4921) with the 5BTV vertical and pay only half price for the 30m resonator!

3-15V 25A Heavy Duty Power Supply

This solidly built benchtop power supply provides current of up to 25 amps ICAS at 15V, 20 amp continuous at 13.8V and lower current at lower voltages. It has front panel metering plus high current banana-style and low-current output connections. An internal heatsink and thermally switched fan provides cooling without protrusions in the metal case. Specially modified for more reliable long-term operation, it uses a rugged 50 amp bridge rectifier & trifilar transformer. Also provided is extensive overload protection through dissipation limiting circuitry for the pass transistors, a 30 amp instantaneous current limit, AC mains circuit breaker, a transformer thermal fuse & fused auxiliary secondary winding.
D 3800

$299

Great Value!

Yaesu FT-1000MP Deluxe HF All Mode Transceiver

Yaesu has created a new 100W HF masterpiece using proven design techniques and a major new technology to the amateur marketplace: Enhanced Digital Signal Processing (EDSP). Teamed up with Direct Digital Synthesis, an outstanding receiver section featuring a high intercept front-end and a variety of IF filters (including a Collins Mechanical Filter), the FT-1000MP's exclusive EDSP facilities provide an impressive array of IF-based noise-reduction and interference reduction filters for enhanced receiver performance. Yaesu's IF-based EDSP system provides 4 random noise-reduction protocols, audio enhancement with 4 equalisation programs for Tx and 3 for Rx, and an automatic notch filter which eliminates multiple interfering carriers. A comprehensive menu system allows you to easily hear the effect of various EDSP settings, so you can choose the best selection for your operating conditions. Front panel selectable EDSP filter contours also aid QRM rejection, providing improved signal-to-noise ratios and razor sharp selectivity. The FT-1000MP also features selectable receiver front-ends, an in-built AC power supply and auto antenna tuner, 2 main antenna sockets, selectable tuning steps as small as 0.625Hz, dual-mode noise blankers, 13.8V DC socket, 500Hz and 6kHz IF crystal filters, an RS-232 computer interface and an MH-31B8 hand microphone. With so many features in this new transceiver, why not ask for a copy of the 12-page FT-1000MP colour brochure or 46-page Technical overview for more detailed information.
D 3400

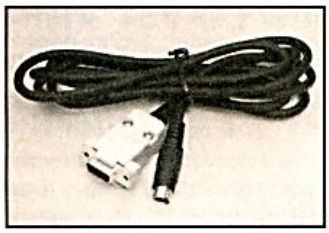
2 year warranty

$4450

FOR ALL YOUR COMMUNICATIONS NEEDS

Advanced Data Management Software

An advanced way to program many of the functions of Yaesu handheld and mobile transceivers. Each package consists of an interface that plugs into the serial port of a PC and connects to the transceiver via its microphone socket (for handhelds) or its Packet socket (for mobiles). Also provides easy-to-use 3.5"(inch) PC software with pull down menus that allow for programming and naming of memory channels, selection of output power, CTCSS tones, scan and battery saver operation, plus much more.

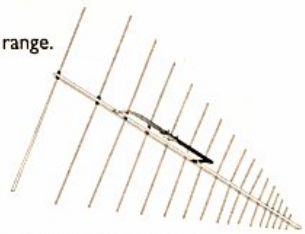


ADMS-1D suits FT-10, 11R, 50R/RD, 51R, VX-1R D 3753
ADMS-2D suits FT-3000M, 8000R, 8500, 8100R D 3759

$89.95 ea

LP-1300 Log Periodic Yagi

The Maldol LP-1300 is a Log Periodic Yagi beam antenna designed to provide useful gain across the 100 to 1300MHz range. Ideal for scanner enthusiasts and ham operators needing a directional wideband antenna. Consists of a 17-element Yagi with a special feed system providing low SWR (less than 2.0:1) across the 100-1300MHz range.



Gain:	6.0dBi to 10.0dBi	**Max wind speed:**	40m/sec
Boom length:	1.46m	**Max power:**	500W
Suitable mast:	28-60mm diameter	**Connector:**	SO-239

D 4828

$269

FT-50RD 2m/70cm Handheld

The Yaesu FT-50RD is an amazingly compact 2m/70cm amateur band handheld transceiver which provides MIL-STD 810 shock and vibration resistance, super wideband receiver coverage, simple menu settings for most functions, and compatibility with the optional Yaesu ADMS-1D software/interface package for PC programming of many functions.

Other features include:

- Tx 144-148MHz, 430 - 450MHz
- Rx 76-200, 300 - 540, 590 - 999MHz (cellular blocked)
- FTT-12 keypad provides Digital Voice Recording, CTCSS/DCS scanning, and CTCSS encode/decode
- 2m/70cm RF output: 2.5, 1.0, 0.1W standard, up to 5W with 9.6V battery or 12V DC socket
- "Omni-glow" LCD screen for easier night-time viewing
- 112 memory channels with 4 character alpha naming
- Dual watch allows monitoring of sub-band activity
- Direct FM modulation for better audio quality
- 5 battery saving systems (includes Rx and Tx Save)

- Comes with FNB-40 slimline 6V 650mA/H Nicad battery pack, flexible 2m/70cm antenna and modified M-9626 AC plugpack adaptor for Nicad charging

D 3660

2 YEAR WARRANTY

$569

BONUS!

Pay only half-price for a second Nicad pack when purchased with the FT-50RD. Limit one per customer. Applies to FNB-40, 41, 42 only.

FT-8100R 2m/70cm Mobile

The new Yaesu FT-8100R is a state-of-the-art 2m/70cm band mobile transceiver that combines high power and the industry's most versatile memory system with an excellent wideband receiver and solid construction. Its US MIL-STD-810 shock and vibration rating is your assurance of years of reliable operation. Includes hand mic, mounting bracket and fused DC power cord.

Other features include:

- 198 memory channels
- 1200/9600 baud packet socket
- Inbuilt antenna duplexer
- Inbuilt crossband repeater facility
- Dual receive capability (VHF/UHF, VHF/VHF, UHF/UHF)
- Optional removable front panel

D 3314

Frequency range: Tx 144-148MHz, 430-450MHz Rx 110-550MHz, 750-1330MHz (less cellular)

Output power: 2m: 50, 20, 5W 70cm: 35, 20, 5W

2 YEAR WARRANTY

$949*

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A 139-B 3928 DPS

What's New
Two new Alinco products

Doug Wynn, Sales Manager (US)310-618-8616

New DJ-V5T VHF+UHF HT with Wide Receive

Alinco USA is adding to its product line the DJ-V5T, a compact Handy-Talkie(HT) Transceiver designed to operate on the Two Meter (144~148 MHz) and 70 cm (420~450 MHz) bands.

The new HT features alphanumeric display, up to 5 watts power output, 200 memories, an expanded receive capability offering coverage from 76~999.995 MHz (cellular blocked), narrow and wide FM receive modes and CTCSS encode and decode.

The DJ-V5T represents a major step forward in transceiver technology by Alinco. The new HT is powerful, compact and offers a large number of features popular with Amateur Radio operators.

Some additional features include four scan modes, five programmable scan banks, automatic internal temperature protection, cable cloning, SMA antenna connector, 13.8 Vdc direct input, four different European tone bursts, autodial memories, input voltage display with over voltage warning, MARS/CAP capability and more.

The new DJ-V5T has already achieved FCC type approval.

"The DJ-V5T is a very affordable full-featured dual-band radio,"* said Doug Wynn, KB6YZD, sales manager for Alinco. *"When one compares the price and features to transceivers of just a few years ago, the value is incredible."

The DJ-V5T is expected to be available at Alinco dealers in early May.

Alinco's MSRP has been announced at US$315 for the version with a 2 watt output battery and US$345 for the 5 watt battery model (DJ-V5TH).

Wynn added that individual dealers often set the "street price" of Alinco radios lower than the MSRP.

DON'T FORGET TO CHECK WITH "AR" ADVERTISERS FOR LOCAL AVAILABILITY AND OTHER EQUIPMENT IN THEIR RANGES.

Alinco introduces new 2 Meter HT DJ-195T

(With Mozzie repellant)

Alinco USA is planning to release a new Two-Meter HT, the DJ-195T, a newly designed handheld transceiver designed to operate on Amateur Radio's most popular (144~148 MHz) band.

The new HT features alphanumeric display, up to 5 watts power output, 40 memories, receiver coverage from 130~174 MHz, CTCSS encode and decode, Digital Code Squelch (DCS), autodialer memories and more.

Some of the more unique features of the DJ-195T include a theft alarm that when activated, sounds when the unit is removed from an external power source, such as in a mobile environment.

Alinco has also included an experimental "mosquito repel" feature that may keep the annoying insects away from the vicinity of the radio through the emission of an electronic tone. *"It's a feature we added just for fun,"* said Mr. Nakata. *"The mosquito repel feature could make the DJ-195T the first radio capable of de-bugging a Field Day operating position,"* he added with a smile.

Doug Wynn, Sales Manager for Alinco USA, said the features included in the DJ-195T reflect input gathered directly from Amateur Radio operators. *"We're pleased that hams at shows and those who send written comments have taken the time to share their thoughts on what should be included in a transceiver."* Additional DJ-195T features include standard high-output (5 watts) battery, 13.8 VDC direct input, cable cloning, BNC antenna connector, European tone bursts, autodial memories, MARS/CAP capability and more.

The DJ-195T is expected to be available at US Alinco dealers shortly after FCC type approval is granted. Pricing on the DJ-195T has not yet been announced but Wynn says it will be "very competitive" in the marketplace.

The DJ-V5T should be available in the US mid May and the DJ-195T will be available sometime in mid June. To view these products, please visit the Alinco website at www.alinco.com

Thank you for your interest in Alinco products.

NOVICE NOTES

Peter Parker VK3YE
12/8 Walnut Street, Carnegie, Vic 3163
Email: parkerp@alphalink.com.au
Novice Notes Online: http://www.alphalink.com.au/~parkerp/nonline.htm
Please note that this is Peter's correct address.

Operating from tall buildings

Introduction

A few amateurs are lucky enough to live in good locations and always seem to have the best VHF/UHF signals. They can always hear people you can't and hit repeaters you've never heard of.

How would **you** like to be one of the biggest signals in your city for a day, or even a couple of hours? Well you can, just by taking your equipment to a good spot. At a good location you can compensate for your 30 watt VHF/UHF power limit and restricted antennas. For a short time you'll get out as well as the "big guns".

A great place go is the top of a tall building in the the city. Here are some tips on how to go 'skyscraper portable' and successfully work the VHF/UHF bands.

Places

Some cities have tall buildings with public viewing platforms. Others have viewing platforms that only open on special occasions. There are also cities that have a viewing structure other than an office building fairly close to the CBD.

Even where your city has no buildings with public viewing platforms, do not discount the possibility of gaining access to the roof of a tall building. This would be a great project for your club for next year's John Moyle Field Day.

The following is a listing of some operating spots available in major Australian cities. Source information came from personal observation, other amateurs, state tourism centres and building staff.

Adelaide

Adelaide lacks the tall buildings found in other capital cities. However the Adelaide Hills are fairly close to the city and offer good opportunities for VHF DX.

Brisbane

The Queensland Government Travel Centre advised there are no tall city buildings with public viewing decks. There are though several restaurants with reasonable prominance. The cost of the contacts is of course much higher! Mount Cootha, home to the city's television towers, has a grand public lookout overlooking the city.

Canberra

Canberra also has no really tall city buildings. The nearby Telstra Tower includes a public observation deck that provides good views from Black Mountain. The city is surrounded by hills that offer good opportunities for microwave enthusiasts and VHF/UHF DXers. Because of the lack of local VHF/UHF FM activity, SSB operation on Saturday and Sunday mornings is likely to provide the best opportunities for long-distance contacts.

Melbourne

The Rialto Tower allows public access to its 55th floor for $7.50. A good take-off exists in all directions. The tower is open until 10:00pm (11:00 pm Fridays and Saturdays). Reasonable food is available from the cafe near the viewing deck.

Though not nearly as high as the Rialto, Tony VK3JED has had good results from the Westgate Bridge while operating mobile on various frequencies between 144 and 1300 MHz. The main problem here is that the operating time is limited to about two minutes (depending on traffic conditions). Other sites that Tony says are worthwhile include Glen Waverley (alongside the Police Academy), Bundoora, just north of LaTrobe University, and Doncaster Shoppingtown (in the top level car park).

Perth

The Western Australian Tourism Centre advised that Perth has no buildings which have observation decks that are regularly open to members of the public. However, good views are available from the top of the DNA spiral look-out in Kings Park. South-West repeaters are accessible from this site, but signals will usually be marginal with two watts unless you use a small yagi or quad antenna.

Sydney

Sydney's AMP Tower (formerly known as Centrepoin Tower) has a public observation deck 305 metres above street level. Open each day until 10:30pm (11:30pm Saturdays), full admission costs $10.00, pensioners and children pay much less.

Equipment

The equipment used need not be any different from that used from any other spot with no mains power. The only thing to watch is the strength of your transceiver's front-end - you are just hundreds of metres from high-power pager transmitters and your receiver will need to withstand the onslaught of kilowatts of RF in the area. I find the all-mode Yaesu FT290R MK1, not the most sensitive of radios, to be a good transceiver to use in high-RF areas. Directional antennas and/or horizontal polarisation can also assist in keeping pagers out of your receiver.

Other equipment you should take is a callbook with a current repeater and beacon list, pen, paper, and sufficient battery capacity to last your expected time aloft. Where the building is darkened at night, a small torch to read the callbook and any notes you write is handy. Earphones that don't make you look like a Martian are also desirable to prevent others from hearing your contacts.

Antennas

This is a question of how much attention you wish to draw to yourself. A small hand-held yagi or quad would obviously be ideal, but has a visual impact that cannot be ignored in a small space. There is also the risk of detuning by adding the odd eye ball along the way if the ends of your elements are rigid and pointed. The author has taken a small yagi on two occasions. In both cases it was not used because of its visibility and the number of people present.

A quarter wavelength whip for two metres and a 5/8 wavelength whip on 70 centimetres are not too conspicuous and are suggested as a sensible compromise between antenna gain and visibility.

Horizontal antennas are harder to arrange. I always tilt the vertical antenna on the transceiver when using a vertical antenna. Serious SSB operators should consider building a halo for the purpose.

Batteries

Having taken the trouble of travelling to the operating spot (and paid to get in), you will

want to be able to operate as long as you possibly can. This means taking your handheld's biggest battery pack, perhaps with a fully-charged spare for good measure. A 12 volt 6 to 7 amp-hour sealed lead acid battery will provide reliable operation for hours at a time, especially if you indulge in long ragchews between contest contacts. Operating time can also be extended by selecting the low power setting on your transceiver - 1 watt is plenty for most metropolitan-wide contacts, and quite long distances can be spanned with just a few milliwatts of transmit power.

Attitude of building staff

Provided you use modest antennas, refrain from shouting into microphones and flooding the building with FM receiver hiss, staff will generally be courteous and tolerant of your transmitting activities.

It's not a good idea to stay in the same spot for a long time - you may be considered a security risk and may be asked to show the contents of your bag. Moving at least every 5-10 minutes also lets other people enjoy your view and allows you to try for contacts or repeaters in other directions.

Getting contacts

To get a worthwhile number of contacts, you will need to generate activity yourself.

If you are operating from a large city, it should be easy to work people throughout the metropolitan area and beyond with a few watts. Don't assume that contacts will come easily simply by calling CQ on 146.500 MHz just because the Callbook lists it as the FM simplex calling frequency. You can have the world's biggest signal on 146.500 MHz but sometimes not get an answer.

The reason for this is that Australian hamdom is best understood as being a large number of disparate tribes, each inhabiting their own simplex frequencies or repeaters. The best way to make more contacts is to tune around the obscure simplex frequencies in the week prior to your expedition and find out who uses which frequencies. Then put out calls on these frequencies as well as the recognised calling channels when you're portable. Also do not neglect that some country repeaters will be workable from your lofty position. Your transceiver's repeater reverse facilities can be used to determine if you could attempt simplex operation with stations you work.

Another way to get more contacts is to generate awareness of what you are doing and when you will do it. This may include mentioning it at radio club meetings, putting a message on the aus.radio.amateur.misc Internet newsgroup, mentioning it on the VK-VHF-DX reflector and placing a bulletin on packet radio. It's not every day that local amateurs can work their city's tallest building, and you will find that your activities will generate interest among local hams, which means more contacts for you.

Contests

Contests with a VHF section are excellent times to go portable from a tall building. This is because they bring out people that are seldom on air at other times.

There are huge variations in contest activity between capital cities. For example, in Perth there is not much interest in the Spring and Summer VHF/UHF Field Days, but the Remembrance Day contest brings dozens of normally inactive operators to the VHF/UHF bands. In contrast, station logs confirm that VHF/UHF RD contest activity is almost unknown in Sydney, despite that city's larger population. Like Perth, Melbourne also enjoys high RD contest activity on VHF. The other cities fall in between these extremes. The Remembrance Day contest is held each August - this year's is scheduled for the weekend of August 14-15. It's the best opportunity you'll get to work many stations in a short time from a high place on the VHF and UHF bands. The RD rules will appear in the July or August *Amateur Radio*.

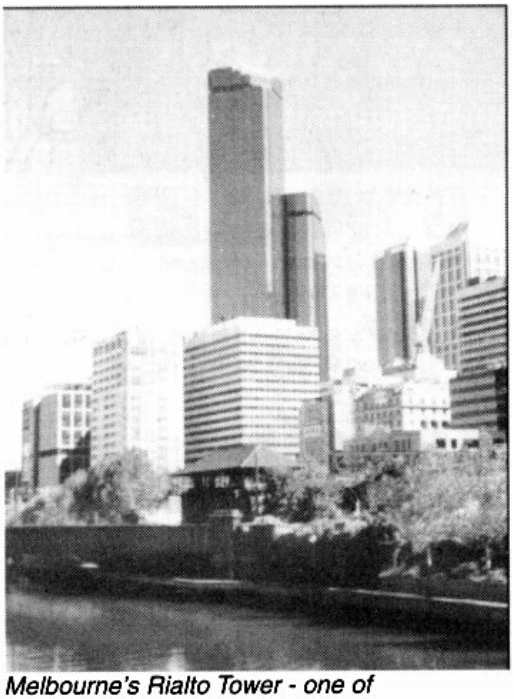
Many amateurs don't like contests or say that they have 'been there, done that' and will not submit a log. However, it's usually possible to wring numbers out of these people, and get points that others miss. You can work these people by calling them on 'their' simplex frequencies (found out pre-contest). Your publicity should emphasise that your activity is a rare chance for stations to 'work the city's tallest building' only casually mentioning that you are there as part of a contest operation. If you are a lot of people's first contact (ie many 599001 numbers in your log) you know that you have been successful in generating this type of activity for yourself. With any luck the stations you work this year will be more active in the contest next year.

Conclusion

I have operated portable from Melbourne's Rialto Tower during the last three Australian VHF/UHF contests. Distances approaching 150 kilometres have been spanned with 2.5 watts FM to a simple whip antenna. Operating from tall buildings is a great way to exploit the capabilities of your equipment to the maximum and make contacts not possible from your home station.

Novice Notes Online:

http://www.alphalink.com.au/~parkerp/nonline.htm



Melbourne's Rialto Tower - one of Australia's top spots for transmitting.

Novice Notes Feedback File

Two items of correspondence, both on aspects of antenna system grounding, have recently been received from readers.

In response to April's column on low profile antennas, Allan VK4FBB advised that there was a good article on grounds and earth wires in the April 1991 issue of *73 Amateur Radio Today*.

Allan said that the article contains full instructions on an RF ground that really works and can be used up to four floors above ground. Old magazines frequently turn up at hamfests and junk sales, and you may be lucky.

A reader who wishes to remain anonymous has been plagued with a problem in his mobile station for nearly a year. The equipment used was a Codan 9323 and auto tune antenna. The fault showed as jittery audio and towards the end as jittery transmit as well when he was mobile. However everything worked properly when the vehicle was stationary.

The problem stumped various two-way experts that were asked about it. Because the fault had got worse, my correspondent decided to check the connections all again. The problem turned out to be that the earth braid on the coaxial cable was intermittent at the antenna end.

He wonders how many others have fallen foul of the same simple yet bewildering fault. Even after more than 30 years playing radio, earning a living from it and all, he still fell for the trick.

ar

TECHNICAL ABSTRACTS

Gil Sones VK3AUI
30 Moore Street
Box Hill South Vic 3128

RF Current Probe

A simple relative reading RF current probe was described in QST February 1999 by Steve L Sparks N5SV. The probe uses a adjust the sensitivity control to obtain a suitable reading. You can then observe relative RF currents. This can be handy for adjusting radials or looking for current in

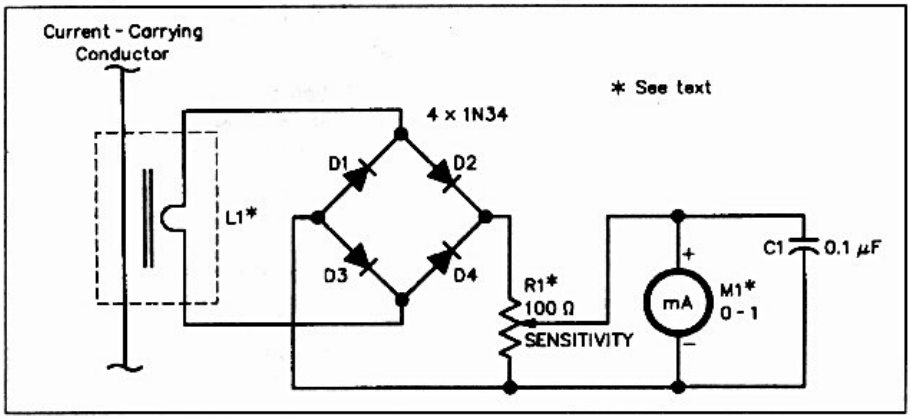


Fig 1. RF Current Probe diagram

snap-on Ferrite choke for the coupler and has good sensitivity that can be improved if necessary by using a more sensitive meter.

The probe circuit is very simple and the only specialised part is the snap-on ferrite choke core.

The one used was obtained from Radio Shack, known locally as Tandy. The ferrite choke may well be available locally from Tandy. Dick Smith, Jaycar and possibly other shops stock alternative chokes. The Radio Shack part no. was RS 275-105.

The winding on the current transformer is one turn of number 14 wire run lengthwise through the snap on ferrite choke core.

The bridge rectifier uses germanium diodes. Silicon diodes should not be substituted as their forward voltage is about twice that of germanium. The diodes were also obtained from Radio Shack and there are various local suppliers of 1N34 germanium diodes.

The circuit is shown in Fig 1. A note on the sensitivity potentiometer refers to the author using a 10-turn pot so as to make adjustment easier.

The ferrite choke was glued to the top of the metal enclosure used to house the device. The 0.1 μF capacitor was a disc ceramic.

To use the device simply snap the ferrite core around the conductor carrying RF and

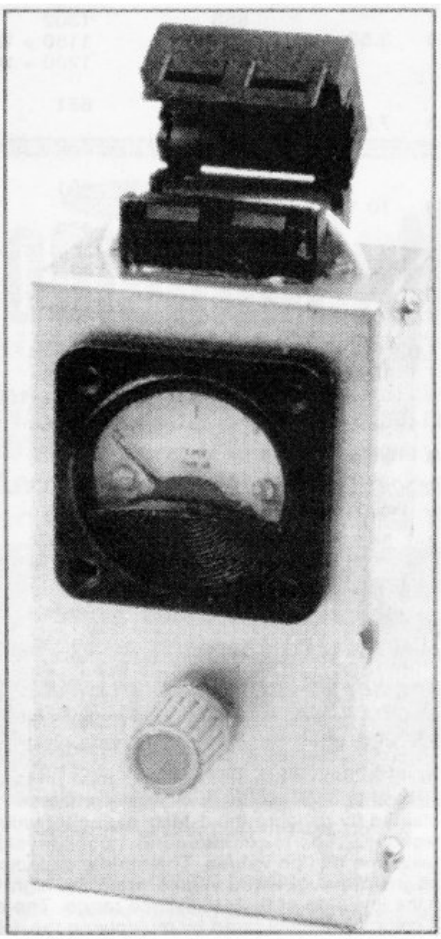


Fig 1b. The RF Current Probe

leads. You can resonate a ground lead or see how RFI reduction measures affect the current in shack cables. You can also see if all radials are working and carrying their share of the RF current.

Mini Sky Needle

Rick Littlefield K1BQT described a simple way of mounting and rotating a small mast in *Communications Quarterly, Fall 1998* in the Tech Notes column of Peter Bertini K1ZJH.

The mast used was a push up TV mast from Radio Shack that looks similar to those available locally.

The rotator used was an Alliance HD-73 which would have equivalents available locally.

The whole setup was mounted on the wall at the side of a house.

The setup is shown in Fig 2. The rotator was bottom mounted onto a shelf bracket arrangement fastened to the side wall of a house.

The load and the sideways torque component should be spread out if possible. In a timber house it would be best to fasten to the studs, as the skin may not be substantial enough.

The thrust bearing used was located higher up the wall near the eaves and once again the loading from the mounting should be spread.

The thrust bearing used was an aluminium casting obtained from a marine chandler that was designed for fastening two-inch pipe to a dock. There may well be similar fittings available locally or you could make a steel bracket without too much trouble.

The author used the mast unguyed but except for brief periods with only a small VHF antenna this cannot be recommended. The TV push-up masts are really only stable with a full set of guys when extended.

Many have had the experience of what can happen when things go awry during erection. However they are useful when used within their capabilities.

The mast and mounting assembly should be carefully checked and aligned as any binding or misalignment is very undesirable.

You may be able to test alignment of the mountings by trial assembly on a plank prior to fastening mountings to the wall.

I have seen a similar assembly used by a unit dweller that used a wooden frame that was attached to the wall in such a way that it could be removed without leaving marks.

The mast and rotator should be earthed for a measure of lightning protection. This

Continued on page 34

will help divert any stray currents from the shack and is a wise precaution.

The sky needle reference is to a rather larger construction of a base mounted free standing mast that was rotated from the base. These were available in the USA and made a very elegant antenna support.

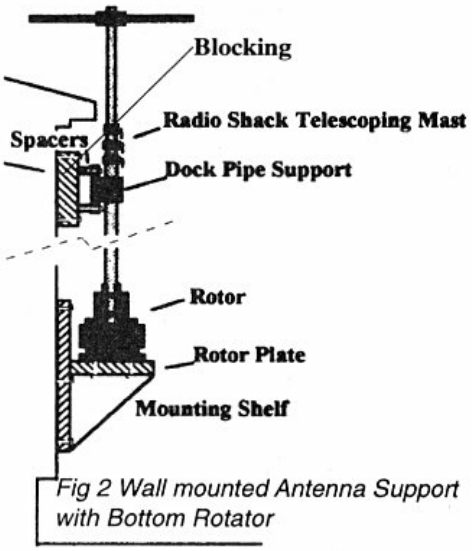


Fig 2 Wall mounted Antenna Support with Bottom Rotator

Second Harmonic Optimised Low Pass Filter.

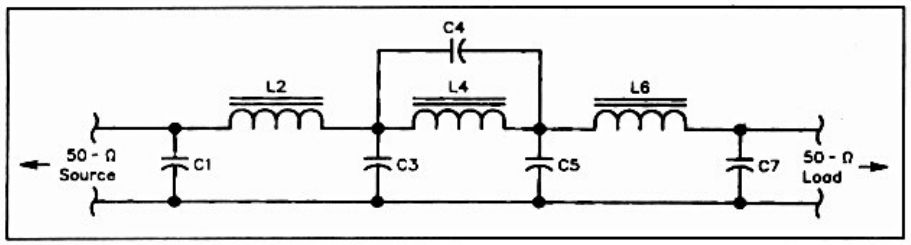


Fig 3. Modified Low Pass Design.

A low pass filter using a modified Chebyshev configuration designed to provide improved second harmonic rejection together with good return loss performance in the passband was described in *QST February 1999.*

The author was Ed Wetherhold W3NQN. A software program from Jim Tonne WB6BLD at Trinity Software was used in the design.

The filter is shown in Fig 3.

Values for various bands are shown in table 1.

The 1 MHz values allow you to scale values for any band of your choice.

The basic idea is to place an additional capacitor across L4 to increase the attenuation of the second harmonic.

A computer plot of the performance of a standard Chebyshev design is shown in Fig 4 using the Elsie computer program.

A similar computer plot of the modified design of Fig 3 is shown in Fig 5.

The Elsie program is available from Trinity Software 7801 Rice Dr., Rowlett, Tx, 75088.

The author describes the filter as a Chebyshev with Added Zero or CWAZ design.

ar

Table 1

CWAZ 50-Ω Low-Pass Filters

Designed for second-harmonic attenuation in amateur bands below 30 MHz.

Band (m)	Start Frequency (MHz)	C1,7 (pF)	C3,5 (pF)	C4 (pF)	L2,6 (μH)	L4 (μH)	F4 (MHz)
—	1.00	2986	4556	680.1	9.377	8.516	2.091
160	1.80	1659	2531	378	5.21	4.73	3.76
		1450 + 220	2100 + 470				
		1500 + 150	2200 + 330	330 + 47			3.78
80	3.50	853	1302	194	2.68	2.43	7.32
			1150 + 150				
		470 + 390	1200 + 100	150 + 47			7.27
40	7.00	427	651	97.2	1.34	1.22	14.6
		330 + 100	330 + 330	100			14.4
30	10.1	296	451	67.3	0.928	0.843	21.1
		150 + 150	470	68			21.0
20	14.0	213	325	48.6	0.670	0.608	29.3
		220	330	47			29.8
17	18.068	165	252	37.6	0.519	0.471	37.8
		82 + 82	100 + 150	39			37.1
15	21.0	142	217	32.4	0.447	0.406	43.9
		150	220	33			43.5
12	24.89	120	183	27.3	0.377	0.342	52.0
		120	180	27			52.4
10	28.0	107	163	24.3	0.335	0.304	58.5
		100	82 + 82	27			55.6

NOTE:
The CWAZ low-pass filters are designed for a single amateur band to provide more than 50 dB attenuation to the second harmonic of the fundamental frequency and to the higher harmonics. All component values for any particular band are calculated by dividing the 1-MHz values in the first row (included for reference only) by the start frequency of the selected band. The upper capacitor values in each row show the calculated design values obtained by dividing the 1-MHz capacitor values by the amateur-band start frequency in megahertz. The lower standard-capacitor values are suggested as a convenient way to realize the design values. The middle capacitor values in the 160- and 80-meter-band designs are suggested values when the high-value capacitors (greater than 1000 pF) are on the low side of their tolerance range. The design F4 frequency (see upper value in the F4 column) is calculated by multiplying the 1-MHz F4 value by the start frequency of the band. The lower number in the F4 column is the F4 frequency based on the suggested lower capacitor value and the listed L4 value.

Amateur Radio
Technically Tops

Second Harmonic Optimised Low Pass Filter — Plots

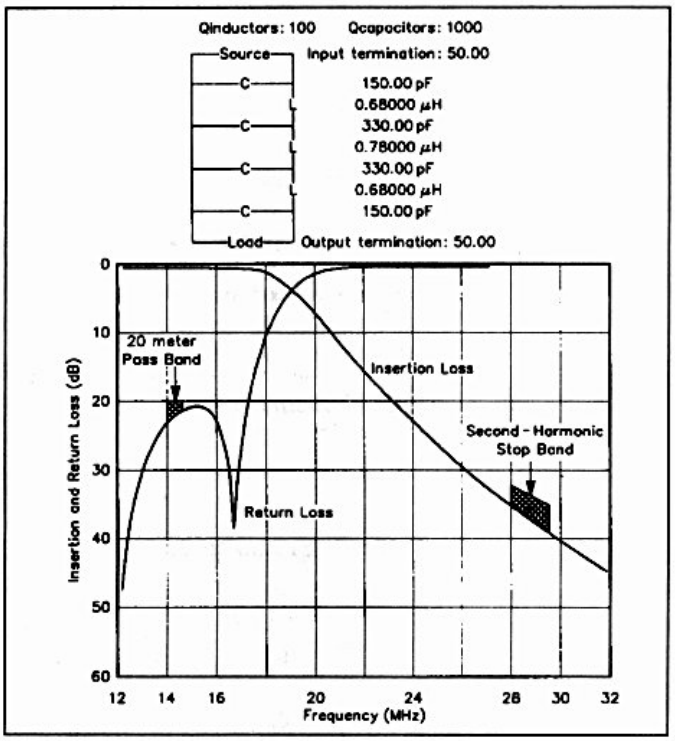


Fig 4. Elsie Plot of Seventh Order Chebyshev Design.

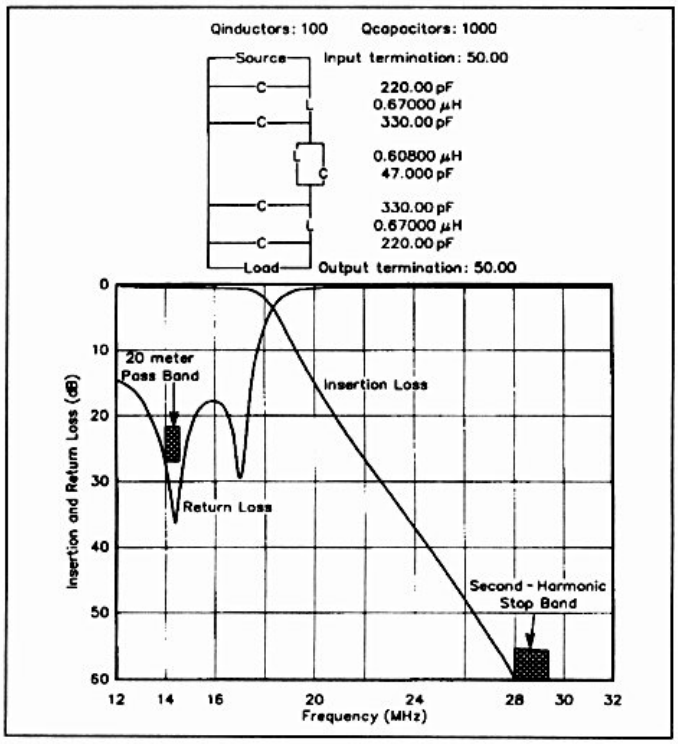


Fig 5. Elsie Plot of Modified Design.

VHF UHF AN EXPANDING WORLD

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All times are UTC

One Metre days

This letter from **George Adams VK2WEL** arrived some time ago, but pressure of space has prevented me from using it. It adds another saga to those daunting one metre days. Thank you George. ... **VK5LP.**

I have read with great interest your recent articles in AR re the One Metre Band and does it sure bring back some great memories!

In the early 1950's I lived at Queanbeyan and in September 1955 I gained my "Z" call VK2ZBT, and set about building my first transmitter from the details of the 288 MHz design in "Radio & Hobbies". Each piece of gear was built on the chassis from an old broadcast receiver. The tubes were 7193s for the transmitters, and 955s for the Super-regenerative receivers, and folded dipoles for the antennas. I later built a 16 element beam.

I know how Marconi must have felt when he first had success, because when I completed my gear, I did not have anybody locally with One Metre gear with which to test it. I made a set of Lecher Lines to set the transmit frequency, and then fiddled with the receiver until the great moment arrived when I could transmit my voice from one end of my work bench to the other!

I made a second receiver and passed it to Bud Pounsett, then VK2AQJ, VK4QY until recently when he passed away. He was the only other ham living in Queanbeyan at the time. Bud lived about a mile away, and it was sheer delight when he could hear me 5x8. This, my first real contact, was on 19/12/55.

With the National Field Day set for February 1956 some fellow members of the Canberra Radio Society (now the VK1 Division of the WIA), got to work and built One Metre gear. My log for the day shows Stan VK2ASB, Bud VK2AQJ, Ted VK2AOP, VK2AIL, VK2ZBS and Ron VK2PM as having been worked. VK2ASB was mobile. We did very well in the Field Day with the multiplier from the One Metre contacts. Note that these were all Canberra stations except for VK2AQJ and myself, as the VK1 call for Canberra had not been issued at that time.

This activity is perhaps brought into perspective when we realise that this was in the days before the launch of TV in Australia. It was not until a year later that the first satellite, Sputnik 1, was launched, and while watching it go over, little did I think that I would some day be using satellites for Ham Radio and making contacts through a manned Space Station, MIR.

Technology has certainly changed the hobby. I am presently playing with SSTV to receive pictures from MIR, but I do not believe I will ever have as great a thrill as listening to those first squeaky signals travelling the whole length of my workbench on the One Metre Band!

Thanks Eric for raising the topic and I trust the foregoing may fill in a bit more info into what were fun times with simple gear. I enjoy your column.

Another 47 GHz Record for the French

The *RSGB Microwave Newsletter* for February reported that **F6BVA** and **F5CAU** extended their 47 GHz world record to 268 km on 26/12/98. F6BVA operated from Tour de Batere (JN12gm) at 1400 metres elevation, while F5CAU set up on the 1500 metre Mt. Ventoux (JN14pd). The air temperature was just above freezing. ... **W3EP** and *QST.*

Class Licences on 70 cm

I draw readers attention to the WIA Federal Statement by **Peter Naish VK2APN** on page 5 of April AR, regarding Class Licence operations on the 70 cm band. There is also the ACA response to be found on the Victorian WIA Web site at <www.tbsa.com.au/~wiavic>.

All makes interesting reading. It certainly seems we will be sharing a portion of the narrow band segment of 70 cm with 20 mW ERP equipment used for the transmission of data, RF keylocks for vehicles, radio control devices for models and similar activities.

There have been many comments on the Macquarie Reflector for several weeks but little since the ACAs posting of their comments.

I don't propose adding anything in these columns other than to bring the matter to your attention. No doubt *AR* will carry such information in a separate form. For me to go into the matter fully will probably mean unnecessary duplication, but I am concerned that the use of LIPDs is more likely to escalate than reduce.

Microwave news

David Burger VK2CZ is currently working on equipment to operate on 24.192.1 GHz. He says: *It is of DB6NT origin, but a more flexible design than he publishes in his catalog. Presently I have a 300 mm dish and that will grow to a 900 mm dish in a month. The overall performance is a receive NF of 1.6 dB (measured) and a power output of 85 mW CW (measured). Modes supported are FM/SSB/CW. This has been fully operational since 2/99. (Tests courtesy of ATI Microwave, Peter Choquenot).*

I'm waiting for a couple of others here in Sydney to get up to speed, and the UK ham in Chatswood to bring his gear back to VK. The 24.192.1 GHz international calling frequency (!) appears not to be used in VK where 24.048.1GHz is favoured.

Walter Howse VK6KZ writes: *I note David Burger's comments re the use of 24.192 GHz and am excited by his designation of an INTERNATIONAL calling frequency - oh, if it could be such from VK!*

Up to the present, the narrowband activities on 24 GHz have been focused on 24.048 GHz. As one of the two pioneers of narrow-band (together with Neil Sandford VK6BHT - now VK2EI) we chose the 24.048 part of the spectrum as it is consistent with the Australian band plan and has the benefit of overlapping the satellite service. It is the likely future direction of the Europeans.

Currently stations with narrow-band gear on the 24.048 GHz portion of the spectrum include VK2EI, VK2ALU (under construction), VK3XPD, VK3ZQB, VK5NC, VK5KK, VK6ZAY and VK6KZ. It is highly likely that further stations planning activity in VK6, VK5 and VK3 will choose 24.048 GHz.

Of course the potential for long haul contacts interstate is limited but those contemplating building (or buying) gear for

24 GHz should think carefully about the choice of operating frequency. After all, most of those with 24.048 GHz gear have track records for travelling interstate for portable operations. (Got to get contacts somehow!)

Six metres

Neville Mattick VK2QF posted the following autumn equinox Seasonal Summary from 01/02/1999 to 30/04/1999 on the Web site <http://www.winsoft.net.au/~vk2qf/summary.htm>.

QSO Total: 281

QSO Totals by DXCC:

Japan 256 Australia 4 Marshall Is 2 Ogasawara Is 1 Marcus Is 1 Banaba 2 Mexico 2 Belau 1 Taiwan 1 New Zealand 2 Korea 7 Caribbean Sea 2

CW = 259 (92%) SSB = 22 (8%)

Seasonal Performance:

The season reflects the early pre-peak stages of a solar cycle ascent. Classic of this at 32.75 degrees South are brief East-West longitudinal aligned pipes. An example of this would be W1LP/MM in the Caribbean Sea off the East Coast of Nicaragua and the regular reports of the Mexican beacons. Best DX on this mode was hearing traces of unworkable signals from WP4O > 15000km. Other contacts on the local F2 were infrequent, notably T3 and T8. As yet this mode of straight propagation (non "super F") did not extend much more than 15 degrees West of North so far this cycle.

Only two workable sporadic E events can be recalled, one to New Zealand and the second to North Queensland. The Sporadic E event on the evening (March 31 0800-1100z) unusually linked to Super F mode TEP with second departure from North Queensland. It was this opening that resulted in 5 countries (Japan-JR6 etc) worked in that period all in the difficult region 24 degrees North. Significant in that contacts from this location are uncommon to 32 degrees South along with a brief combination of modes and high levels of focussing leads to a narrow window of opportunity per contact.

Standard TEP modes I and II were quite predictable and especially the openings of 20/3, 21/3, 22/3, 10/4 and 11/4/1999. During these openings video signals from West China and Russia were common. In the classic window of 0700-1100z numerous transmitters were heard on many days from Malaysia. the Middle East and Europe (esp 48.239.6 JN39).

Summary:

Simply an outstanding season for an average VK2 station and operator in a poor location, given the current point on the solar graph. Two new countries worked and a good spread of contacts from East to North. Activity levels especially on TEP to Japan were good and general operating decorum was high. A pro-active approach to DX was taken by trying to be available in most openings. ... **VK2QF.**

Mike ZL2TIC reports that Saturday 17/4 was an interesting period. A summary follows:

1930 35 MHz pagers 5/9+.

2230 Utility stations from North America/Mexico to over 40 MHz.

0010 Very strong Asian stations up to 40 MHz, including strong repeaters on 39.550,575,585 and 975; all sounded like some sort of taxi service. 35.200 to 35.270 broadband FM tone with very strong signals? Never heard this before.

0200 Asian signals 30-45 MHz strong and many of them.

0300 Strong Aurora beaming south 45.250,260; 55.240,250,260 all 5x9. 0330 ZL3SIX/B 50.040 5x9 via Au.

0400 49.750 with many weak offsets, with what sounded like meteor pings.

0430 48.240 5x5 with QSB.

0530 46.170 TV 5x8.

0730 49.750+/_ building up to 5x9, also 30 MHz to 47 MHz+ strong Asian Utility stations.

0800 Strong JA opening lasting half an hour, many worked.

John VK3ATQ advises that the morning six meter scheds are alive and well. He says: *Just to remind you of the format, we usually start off at 7 am (2100) on all weekday mornings (no weekends). The frequency we start on is 50.130 MHz and the stations active are David VK3ANP (Wangaratta), Warren VK3BWT (Mallacoota), Eddie VK1VP (Canberra), Jack VK3AJK (Lakes Entrance), John VK3BQS (Sale), Joe VK7JG (Launceston), Andrew VK7XR (Devonport), Bob VK7JR (King Island) and David VK3XDR (Hallam). Steve VK3OT (Hamilton) comes on every couple of weeks to stretch the legs of the far eastern ops like Warren and John! The VK7 stations are usually to be found on 50.135 MHz from 2115 through to 2135.*

The scheds are necessarily short, as most ops are off to work shortly after. Some of us hook up on 3.650 MHz after the six-meter activity and compare notes.

It is interesting to see how our group members have slowly improved their stations over the past few years. David VK3ANP has built a W1JR designed 8 element Yagi (35 foot boom) and his station capability has increased remarkably. Joe VK7JG has also made some antenna changes and his station has a big signal into Melbourne. Mike VK1KCK has acquired a new FT650 rig (which most use) and will be on air in the next month or so. We all now reliably work out to the 450-500 km range each morning. Comparisons with two meters seems to verify the theoretical path loss equations ie six meters is 8 to 10 dB better unless some form of enhancement is present.

1999 SMIRK Contest

A long time friend of mine, **Bill Tynan W3XO,** Vice President of the Six Metre International Radio Klub (SMIRK) has asked me to advise you of the 1999 Contest. He also sends greetings to VHFers in Australia.

As there are quite a number of members in VK and others may be interested, the details are as follows.

The SMIRK QSO Party, sponsored by the Six Meter International Radio Klub will be held from 0000Z June 19, 1999 through 2400Z June 20, 1999. Contacts must be on six metres only, voice and/or CW. No contacts involving another band for one side of the contact count.

One need not be a SMIRK member to take part. Logs must be postmarked no later than 1 August, 1999 and sent to Pat Rose W5OZI, PO Box 393, Junction, Texas 76849, USA.

No contacts between stations in the 48 contiguous U.S. states and lower tier Canada (VE1 through VE7) are allowed between 50.100 and 50.150. Only contacts with and between stations outside of these areas may take place in this band segment.

All contacts must be made by a single operator. There is no multi-operator category in this contest.

Exchange is callsign, SMIRK number if the station worked has one, and grid.

Partial contacts in which one of the above pieces of information is missing, do not count.

All contacts must be made via natural propagation. No contacts using repeaters or any man made device for relaying transmissions are allowed.

All participants must observe the rules governing Amateur Radio operation in the participant's country.

Scoring is as follows:

Count 1 point for each completed contact. If station worked provides a SMIRK number, multiply by 2. Final score is contact points times grids worked. New log forms are available from W5OZI at the above address, or on the SMIRK Web site at http://www.smirk.org/.

Continued on page 38

E-mail address change

Please note that my e-mail address is now changed to **<vk5lp@lm.net.au>.** This allows me to have local call access fees instead of STD charges.

Continued from page 37

Certificates will be issued to the highest scoring participant submitting a valid log, in each ARRL Section, the Maritime Provinces and each of the remaining Canadian provinces and each other DXCC country. If different from the above, a certificate will also be awarded to the highest scoring SMIRK member from each of these areas submitting a valid log. To be valid, logs must include this above location information.

For the purpose of this contest, a SMIRK member is anyone who has ever been issued a SMIRK number, whether or not he or she has paid dues in recent years.

Of course, all 6-meter operators are encouraged to join SMIRK or renew. Renewals may be obtained by sending $6 to the above address, noting the SMIRK number. Anyone not a member may join by sending a list of six SMIRK members worked on 6 meters, along with $6 to the above address.

An attempt will be made to issue a SMIRK number to each new member applying in time to fully participate in this year's SMIRK QSO Party.

SMIRK members as well as non-SMIRK members are invited to take part in this fun event. Why not give it a try? ... **W3XO.**

Beacons

Chas VK3BRZ says there still appears to be some uncertainty about the VK3RGL 2m beacon, so here are the definitive technical details:

Location: Mt. Anakie QF22DC, approx. 300m asl.

Power: 15W divided equally between two antennas

Frequency: Unkeyed carrier: 144.530MHz

Keying: FSK, with mark freq. shifted up approx. 700Hz.

Antenna: Two 4-element horizontally polarised yagis (see below)

Ident sequence: de VK3RGL VK3RGL QF22DC VK3RGL VK3RGL QF22DC followed by 20 seconds of unkeyed carrier.

The entire sequence is sent within 60 seconds.

Antenna System Details:

The antennas are two 4-element yagis designed using "Yagi Analyzer". Forward gain of each is 8 dBd and the 3 dB beamwidth is 50 degrees. The 10 dB beamwidth is 84 degrees.

The "west" yagi is pointed on a bearing of ~293 degrees.

To visualise this, think of a line from Geelong to where the VK6 border crosses the south coast of Australia. The 3 dB extremities go through Port Augusta and a few hundred km south of Albany. Adelaide and Esperance are both just 2 dB down on the main lobe, or, to put it another way, 6 dB up on the old omni antenna. The 0 dB extremities pass through Darwin (I'm an optimist!) and somewhere in the southern ocean (Heard Is.?).

The North-East antenna is on a bearing of ~35 degrees.

Its main lobe is directed at where the VK2-VK4 border reaches the coast. The 3 dB beamwidth lies towards Lord Howe Island and a little south of Mackay. The 0 dB points go through Cape Howe (Vic.) and Cooktown (QLD).

Modifications to FT-736R

Chris Hill VK6KCH sent the following that may interest users of the FT-736R on six metres.

Around 1988/89, I was using a Kenwood TS-680, which allowed me to listen for the various TV transmissions etc on 48 and 49 MHz, using these signals as an indicator of possible 6m openings into JA etc.

When I upgraded to a Yaesu FT-736R, the one major deficiency was that it wouldn't receive below 50.000 MHz. How frustrating!

I recently found some interesting information at <http://www.qsl.net/k70n/mods/yaesu/yaesu.htm#FT-736>.

Based on the information credited to G0HEG and G0TVL, here is how I can now receive from 49.3 MHz to 54MHz.

1. Set VFO B to 53.999 MHz.
2. Set VFO A to 50.000 MHz.
3. Enable the +RPT (hit F, +RPT).
4. Change repeater offset to 01.999 (hit F, BAND, 01999, ENT).
5. Press REV.
6. Press UP MHz key. Should now see 49.000 MHz.
7. Store in PMS, by hitting F, PMS.

This sets the PMS frequency range to be 49.000 to 53.999 MHz. By pressing PMS, you can now freely tune across that range. My VCO falls out of lock below 49.3 MHz. I still use the normal VFO mode for general operations. It is also possible to save a 49 MHz frequency into a memory from PMS, using the VFO>M button.

The full procedure given on the above web site didn't work for me; it seeks to enable display of 00.000.0 to 999.999.9 MHz! Of course, the hardware of the radio won't match that!

I accept no responsibility for any possible side-effects, and people shouldn't transmit out of band. ... **Chris VK6KCH.**

Listener news

David Vitek of Parkholme SA, sends further loggings, mainly from the spectrum just below 50 MHz.

David says that conditions have been quiet on six metres with the flux stuck! Ten metres if often available. Most days during April the Asian MUF sat around 39 to 41 MHz. Since then the evening/night TEP has disappeared.

The video around 48.240+ and 49.750+ was logged on 15 days. On 5 days there were no signals at all, not even 10 metres. Video signals were frequent around 0300 but also turned up around 0800-0900.

Some of the exotic 10 metre signals have included areas VU3, 9H1, SV3, ZD8, TX8, DF0,, 3B9, Z21, 9J2, JT2, ZS6, T70A, 4Z0, LU5, HK6, HR1, AP2, 5B4. It appears these signals can appear at any time of the day or evening.

I suppose the moral is - if you are disillusioned with six metres, have a look on ten metres - it will help to fill your day!

Closure

Since the equinox band conditions have certainly died on six metres. Mid winter may see the occasional Es opening, but I suggest we will need to wait at least until August before there will be much change. September and October will be worth watching for a return of F2, and November may even see the path open to Europe.

Closing with two thoughts for the month:

1. When all is said and done, it's the politicians who say it, and the tax-payers who do it; and
2. Pretensions are a source of pain, and the happy time of life begins as soon as we give them up.

73 from The Voice by the Lake.

ar

AMSAT AUSTRALIA

Bill Magnusson VK3JT
RMB 1627 Milawa Vic. 3678
Email: vk3jt@amsat.org

Correction to last month's column.

In the May column I incorrectly quoted Martin Sweeting's callsign. His correct call is G3YJO. My apologies go to Martin. Somehow I had Pat's callsign in my mind as I was typing and it escaped my scrutiny in several proof readings.

"Surrey University raises the bar ... again".

Sure enough ... as soon as you commit something to print, it's either superseded or updated!

Following right along from last month's epistle on satellite imaging it was announced from Surrey University that the new UoSAT-12 had been launched. Because of his time-line, Graham was able to include this announcement in the AMSAT-Australia newsletter but we missed out on inclusion in the May column by just a couple of days. We can however now enjoy the benefit of more detail than was available at that early stage.

At the time of writing this month's column the satellite is well and truly up and running. So far its launching and commissioning have gone exactly to plan. It is transmitting 9600 baud FSK telemetry framed in a VLSI format using a downlink frequency of 437.400 MHz. The transponders and digital uplinks are not yet available for general use.

It has been granted an "OSCAR" number and can now be referred to as UoSAT-Oscar-36 or UO-36 for short. For those with Internet capability, the UoS team has produced a specific home-page for this new bird. You can follow all the very latest developments at http://www.sstl.co.uk/.

UO-36 is the latest satellite in a long string which have come from the University of Surrey. I made specific reference to a number of them in last month's column. Details of all these satellites are available on the above web site.

The amateur radio package on board UO-36 was built by the University's UoSAT team as a research satellite along the lines of UO-9, UO-11, UO-14, UO-15 and UO-22. UO-36 carries a number of imaging payloads with up to a rather surprising 10 meter image resolution. It will feature digital store-and-forward communications in both the VHF and UHF band segments.

Mode L/S voice transponders will also be supported. The satellite is a departure from the 'normal' UoSAT spaceframe in that it is considerably larger and carries a propulsion system.

The imaging system comprises a panchromatic imager and a multispectral imager along with a wide-angle colour camera. The S-band downlink can run at speeds up to 1 mega-baud per second for downloading imaging data. The mode L/S frequencies are selectable via ground station command.

It is expected that the L/S payload will consume quite a lot of power, which means the transponder will not run continuously but will be subject to on/off times following a published schedule.

"All you ever wanted to know about Amateur Radio Satellites but were too afraid to ask".

The President of AMSAT-ZL, Jeff Garrett ZL1BIV has produced a CD containing just about every conceivable piece of data and shareware that is available on the subject of Amateur Radio Satellites.

His "AMSAT-ZL Satellite Compendium 1999" is a veritable mine of information. Jeff has done a remarkable job in archiving a host of relevant information and shareware programs relating to amateur radio satellites.

This is a CD that should find its way into the shack of every amateur seriously interested in amateur radio satellites. The information is contained in some 47 directories and sub-directories. There are tracking programs, Satgen bulletins, Y2k information, images, articles by well as known authors, URLs, equipment mods, I won't try to list them all.

The CD can be ordered from AMSAT-Australia at Box 2141, Adelaide S.A. 5001. It represents great value at $30 for Newsletter subscribers and $40 for non-subscribers.

This price includes packaging and air-mail postage. A very valuable reference source.

National co-ordinator:

Graham Ratcliff VK5AGR
Email: vk5agr@amsat.org

AMSAT Australia net:

The AMSAT-Australia net is held on 80 or 40 meters LSB (Lower Side Band) each Sunday evening (except over the Christmas/New Year period). During the winter months in South Australia (end of March until the end of October) the net is on 3.685 MHz +/- QRM with an official start time 1000utc with early check-ins at 0945utc. During the summer months when daylight saving is in operation in South Australia (end of October until end of March) the net is on 7.068 MHz +/- QRM with an official start time of 0900utc with early check-ins at 0845utc. The times and frequencies have been chosen as the best compromise for an Australia-wide net taking into consideration seasonal propagation changes and the various state summer time variations.

AMSAT Australia newsletter and software service:

The newsletter is published monthly by Graham VK5AGR. Subscription is $30 for Australia, $35 for New Zealand and $40 for other countries by AIRMAIL. It is payable to AMSAT Australia addressed as follows:

AMSAT Australia
GPO Box 2141
Adelaide SA 5001

Keplerian Elements.

Current keps are available from the Internet by accessing the AMSAT FTP site, ftp.amsat.org and following the sub-directories to "KEPS".

Satellite signals and the forthcoming sunspot maximum.

The time is right and the charts tell us that we should expect better HF propagation conditions over the next few years.

What has this to do with satellite operation? Well ... satellites orbit ABOVE the atmosphere. They have to. No satellite could be accelerated to orbital velocity inside the atmosphere. It would burn up. So most orbits are 1000 km or more in altitude.

Even at this height there is a tiny amount of residual 'stuff' out there. The atmosphere doesn't just abruptly stop at a specified height but rather tapers off gradually. Out at geostationary orbit the residual 'stuff' can be ignored for all but the most rigorous

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studies. It's this 'tapering off' that gives us the ionosphere. The ionosphere is the ionised, rarefied upper region of the atmosphere so therefore satellites orbit outside it. Signals from the satellite to you and from you to the satellite must pass through the ionosphere. There's no way around it and by nature they try to do so in a straight line.

Whilst all the text books will tell you that the ionosphere affects HF propagation, all serious VHF/UHF DXers know that nearly all long distance work depends on ionospheric or tropospheric refraction of some sort. There will be times then, when signals from orbiting satellites will encounter a barrier on their way from the satellite to your receiving station (and vice versa).

Many of these anomalies will be of very short duration. Some will be hard to detect when using SSB mode. The digital birds and the NOAA weather satellites afford a good opportunity to study the effects of such conditions as both transmit a continuous data stream which gives a steady "S" meter signal.

Over the past few weeks I have been swapping notes with friends in Melbourne and elsewhere, looking for evidence of such anomalies. On several occasions we have noticed that signals can drop to zero for periods of several seconds and sometimes longer. These periods are interspersed with what at times may be dozens or hundreds of shorter 'drop-outs' lasting for perhaps only a few milliseconds. You can pick some of these up by "S" meter fluctuations on the digital birds but they are all, no matter how short duration, displayed as short black lines on the NOAA pictures.

The disturbances seem to occur mainly when the satellite elevation is close to the horizon, perhaps below 10 degrees elevation. Often they are confined to a short period of time, perhaps only a minute or so. There is rarely any such interference at high elevations. In Victoria we are at a latitude that puts us roughly midway between the auroral belt around Antarctica and the tropics where sporadic "E" is prevalent. This may account for the timing of the interference at low elevations. I'd like to hear from someone further afield as to the timing, or indeed the existence of this effect. It's something we will have to learn to accommodate as the sunspot cycle moves towards and through the maximum.

***Next Month:* The twice-yearly summary of Amateur Radio satellites, their operational status and frequencies.**

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INTRUDER WATCH

IARUMS Notes

Gordon Loveday VK4KAL
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International Amateur Radio Union Monitoring Service

Researching for the Annual Report brought to light quite a few failings in the reporting method.

Whether this applies in other countries, I do not know, possibly the coordinators there are sometimes at "their wit's end" to simplify the process?

For starters in VK, it appears that observers in this country no longer either have the time or inclination to "go out" and look for the intruders, but have offending frequencies, "dished out" to them!

Ok that's fine by me, I have a large database at the present holding about 340 offenders. From this it will be no problem holding a few of the worst intruders, maybe a bit more time will be needed, but what is time to a busy person?

But in making this time available, at MY END, I expect some of the 18,000 odd amateurs in VK to give a few minutes of theirs. Preferably from each call area.

Once again, if no log sheet is available, I will accept ordinary paper, provided it has the following info recorded:

Freq,
UTC,
Date,
Mode,
Callsign if heard,
Bearing if possible,
Antenna in use at your end,
S Meter and remember to put your own callsign in.

I intend to have a good look at the present log sheet, simplification is long overdue.

So for "starters " the frequencies of interest at present are: 3.560 around 1200z, 7.098 / 1600z, 14.250 / 0900z+ these are all A3E mode. What do you hear, tell me? 14.056, 14.064 & 14.091 MHz are A1A in the 1100>1300 time slot. Some info has been heard, but of no sense at present, much more copy is needed.

Intruder Watch is NOT a waste of operating time, world wide we have had many successes over the years.

VK observers over the years have had a major input to those successes, so let's keep our end up.

Thank You.
Gordon VK4KAL F.I.W.C.

WIA/IARUMS Summary for May 1999

Federal co-ord, Gordon Loveday VK4KAL, Rubyvale 4702

FREQ	DATE	UTC	EMM	DETAILS
3.560	0504	1200	A3E	R.Korea, news in English
7.098**	3004	1605	A3E	B/C Indonesia, Jakarta ??
10.1285	2304	0528	F1B	UiVFT, Ui PRINTER
14.002	1504	0650	F1B	UiVFT, plus FAX
14.006	2004	1035	F1B	UiVFT, Multi ch Printer
14.056	2604	1120	A1A	Uicw, 4 fig tfc non amat net
14.064	1804	1150	A1A	ID, "TW5Z" Linked to above freq
14.091	1204	1324>	A1A	3rd freq of above, also 4 figs
14.1855	0904	0726>	F7B	UiMUX,? pps Pulse
14.211**	1504	1643	F1B	UiVFT,850 hz, 112bds
14.249	2004	0550	N0N	UiCarr, weak,+ lo modulation
14.250	2004	0940	A3E	R.N/Korea, H5 of 2.85 ? Birdie??
18.075	2204	1048	A3E	UiBC, non amateur net.
28.650	1904	2300	A3E	R.Habana, Cuba, H3 / 9550, ID ok.

** Primary Frequencies for Australian Observers.

REPEATER LINK

Will McGhie VK6UU
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vk6uu@vk6bbr

Repeaters on the Internet

In a past article in repeater link I described a system whereby amateur repeaters could be accessed by amateurs in a two-way link via the Internet.

This meant that amateurs could talk into distant repeaters that are set up for Internet access, from their computers.

The system required software control of the Internet linked repeaters and software for the users, plus a verification process to make sure that those using the system on the Internet are amateurs.

A number of amateurs in Australia have copied a variation of the system using their radio equipment and Internet connection to connect Australian repeaters to the World Wide Web.

This is a clever and inventive use of technology demonstrating one of our fundamental amateur goals, to be progressive.

ACA Query

However it probably is not legal, and the brief experiment conducted in VK6 soon disappeared.

Now comes a disturbing variation on the regulation side.

A VK4 amateur, Art VK4GO, was providing a one way only Internet connection between some local amateur repeaters and the Internet.

The one way is important to note, as only amateur activity was broadcast onto the Internet and not traffic from the Internet onto the local repeaters. In effect users of the Internet could listen to amateur activity but could not talk back.

What a great publicity boost this provides for amateur radio in these days of declining interest and numbers in amateur radio.

Trying to do the right thing, the ACA was contacted in order to verify the legality of the setup. Their reply was, "it is not legal" and the system was shut down. There were two reasons given by the ACA. The first being that "amateurs cannot be re-transmitted without their consent" and the second one "connection to the telephone network is not allowed."

Putting aside the two reasons given by the ACA, an interesting point arises, could a non-amateur broadcast the amateur repeaters onto the Internet?

My belief is that a non-amateur could, and in fact the Internet is full of broadcasts such as police departments radio systems and all sorts of other forms of live broadcasts.

This could be an example of where an amateur qualification is a disadvantage. Your non-amateur spouse for example, could broadcast an amateur repeater onto the Internet but not you. The two reasons given by the ACA are long standing regulations and a brief look at both makes for interesting discussion.

Consent

The first "no re-transmission without consent" surely must relate to re-transmission onto another radio frequency and not the Internet.

In this instance I think the ACA are simply wrong. If you follow this silly direction for example, is putting a loud speaker in your garden for you and your neighbour to listen to amateur radio contacts illegal?

Having the volume up too loud in the mobile could also be illegal, or putting the telephone handset too close to your amateur receiver. The list could be a long one.

Telephone Network

The second regulation, "no connection to the telephone network" is a long-standing regulation that Australian amateurs have had to accept. This regulation was modified a few years back to allow phone patch and I assume we still are allowed phone patch.

However as soon as the word "repeater" appears, any connection to the telephone network is not allowed. As I understand it I can use a phone patch connection on my VHF 2 metre radio but not on a repeater channel. Explain that one to me if you can.

This situation aside however, applying this regulation to connecting a repeater via a computer to the Internet is a limitation we can do without.

Particularly as the traffic is one way only and as far as I can see non amateurs can do it, so why the limitation on the person who has the amateur qualification?

To Be Discussed

This situation is to be discussed by the WIA Liaison team at the next WIA/ACA meeting, and by the time you read this there may be an answer that allows amateurs the same right as non-amateurs.

Finding Time

Since I have taken on the Federal Councillor role for VK6, I have had little time for amateur radio, and as a consequence writing this column.

The column has become more difficult to write and limited, due to a lack of experimenting in amateur radio, and in particular repeaters. Federal council business takes up an average of one hour a day.

Added to this a renewed interest in canoeing and lightning damage to one of my computers that took a couple of weeks to sort out. Time is difficult to find for real amateur radio.

By the way the lightning damage probably came via my sound card. It was connected to my 2 metre radio to record the VK6 WIA news onto my computer so I could load it onto the VK6 WIA home page.

I had left the radio connected to the computer and discovered that when I switched it on the hard drive, floppy disk drive, sound card, mouse, com port one and two, printer port, and printer did not work.

I'm now a bit more cautious about leaving computers connected to the outside world. Luckily my household insurance picked up the repair bill but the time wasted was not compensated.

ar

POUNDING BRASS

S P Smith
9 Peak Street
Bateau Bay NSW 2261
02 4334 7743

In March this year, Ian Hunt, a past president of the South Australia Division spoke to me about the next HST (High Speed Telegraphy) Champion-ships being held in Italy. He informed me that Oleg Bezzoubov, UA4FBP had recently migrated to Australia with his family and had taken up residency in Adelaide, South Australia.

Ian said that Oleg has been European and World champion on many occasions and would like to represent Australia and submit a team for a future HST.

Several days later I received a letter from Oleg in which he explained a little of his back ground, repeated champion and prize winner of World and European HST championships.

And what does it take to win such competitions?
In one competition Oleg sent for twenty minutes at 50wpm with only **three** errors.
How good is that!!!!

In 1996 he was awarded the highest sport title – "Honoured Master of Sport", by the Government Council of Russia. He has also represented Radio Amateur Society of Russia in WRG IRAU. Oleg said he would be happy to share his skills and experience with those interested in HST. It is too late to participate in the current HST champion-ships, but perhaps in future events.

An extract from Oleg's letters.

HST – High Speed Telegraphy

HST is an Amateur Radio activity, recognised by the IARU, pursued by telegraphy enthusiasts who are ready to develop their skills in this area.

There are national and international championships in which competitors can participate. In the past HST competitions took part mainly in Eastern European countries, but recently it has gone through some positive changes that will hopefully promote popularity all over the world.

The competition consists of three main tests:- the traditional transmitting and receiving of 5 – character groups and the radio amateur practising test (RPT). RPT consists of two programs.

The RUFZ, which is a 'callsign receiving' program, where the task is to receive callsigns and type them back to the computer. The other one is PED, 'the pile up trainer', which is a contest and pile up simulator. Both are popular among HAMs.

HST is not only a competition for high skilled CW Ham's, but its programs can promote young people to become radio amateurs. Traditional tests can help in preparing for CW exams. RUFZ is a good program to develop CW skills in young people.

Getting new higher scores in RUFZ can be very exciting to beginners ensuring that they progress gradually. PED produces a typical contest situation, so it is a good device to practice for the real contest in the bands. A popular HST can be an important means to preserve the Morse Code in the future.

Past HST Events:

European Championships;

1983	Moscow	Soviet Union
1989	Hanover	Germany
1991	Neerpelt	Belgium

World Championships;

1995	Siofok	Hungary
1997	Sofia	Bulgaria

Hungary organised the first IARU Championships attended by competitors from 15 countries from 3 continents. The championships are organised every two years with the next one held in Italy in 1999.

This activity is unknown in many countries yet, but where ever there are CW enthusiasts there are potential competitors. If you are one of them, come and join us.

Extract of The "IARU HST Championships Rules"

Categories;

Junior females	under	20 years of age
Junior males	under	20 years of age
Females	over	20 years of age
Males	over	20 years of age
Senior Females	over	40 years of age
Senior Males	over	46 years of age

Individual competitors and teams can also take part in the competitions. A team consists of up to 12 persons .

Championships Programme:

1. Reception of letter, figure and mixed messages with PARIS100 initial speed.
2. Transmission of letter, figure and mixed messages.
3. Radio Amateur practising test (RPT).

Technical:

The reception messages last during one minute. The message of transmission shall fulfil as fast as possible during one minute each. Straight and Electronic keys are allowed to transmit the messages.

The messages in test 1 and 2 shall be received and transmitted in 5 character groups. The RPT consists of the RUFZ and PED computer programs with given conditions.

It is not compulsory to attend in all tests, for example, one can attend the RPT only.

Classification of Awards:

The summarised result in reception, the summarised results in transmission and RPT will be awarded separately.

Both individual participants and teams will be classified. This is only a short guide of the official rules.

The above as I mentioned earlier is an extract of the letter I received from Oleg Bezzoubov UA4FBP. It may be too short a time frame to organise something for the current HST in Italy, but certainly not for the next event.

I feel the possibilities for this type of contest are endless, with Oleg sharing his skills and experience with us, perhaps we could hold an all Australian contest, with each state selecting their best operators to represent Australia in the next HST Championships.

I am in the process of writing to each president of the WIA to discuss this matter. In the meantime if any one is interested in the HST please contact Oleg who assures me he will only be too pleased to answer all questions and assist in anyway.

Oleg Bezzoubov
2/4 Melville Grove
Hectorville
Adelaide
SA 5073
(T) 088337 3793
E-MAIL oleg-bezz@hotmail.com

See you all next month regards
Steve Smith

AWARDS

John Kelleher VK3DP
Federal Awards Officer
4 Brook Crescent, Box Hill South, Vic 3128 (03) 9889 8393

Not very often do I receive kindly words for the effort, however small, that is required for handling this column, and more importantly, the ever- growing DXCC listings.

In the past two weeks three letters have appeared on my desk thanking me profusely for my effort, which not only brought a smile to my usually furrowed countenance, but which caused me to consider much more effort.

Of late, I am recovering from the effects of a stroke, which was not severe, but slowed me down somewhat. Also, as a consequence, I am running very late with answers to correspondence. Now, on with some awards.

SWEDEN - Worked Scandinavian RTTY Award.

Issued for 2-way RTTY contacts with Scandinavian stations. DX countries require 8 contacts for General Class, 15 contacts for Bronze Class, 25 contacts for Silver Class and 50 contacts for Gold Class.

The General Class must be obtained first before Bronze, Silver or Gold. All bands may be used. GCR list is permissible. For the Gold class, it is necessary to have contact with the following prefixes: LA SM OH TF OX OY and OZ.

A photocopy of the 7 cards is needed when applying for the Gold. Fees: General-10 IRCs, Bronze 6 IRCs, Silver 6 and Gold 6. GCR list to: -

Bo. V Ohlsson SM4CMG,
Skulsta 1258,
710 41 Fellingsbro,
Sweden.

TAIWAN - Chinese Taipei ARL Awards Program.

General requirements: GCR or photocopies accepted. All contacts must be with land-based stations. All contacts must have been from the same QTH. Fee for each award is US$5.00 or 10 IRCs. Apply to: -

CTARTL Award Manager
P.O. Box 73
Taipei Taiwan.

Worked Chinese Prefixes

Contact different Chinese prefixes: BA BT BO BV BZ 3H to 3U. No repeater contacts but Satellite is OK. Available for all CW, SSB or Mixed modes. All bands. Basic award =20 prefixes, Class B = 30, Class A = 40.

Worked All Taiwan Districts

Contact an amateur station located in each of the ten (10) call areas (1 through 0) of Taiwan. No band or mode restriction, however repeaters cannot be used.

10000 Award

Contact with amateurs in towns with different 3-digit postal codes in Taiwan. The codes must be added to at least 10000. Each code may be used one time only. All bands and modes, but no repeater.

THAILAND - The Siam Award.

Contact 10 HS stations. No time limit. SWL OK. GCR and 10 IRCs or equivalent for surface mail 15 IRCs for airmail to :-

Hans D Hollstein HS1BG
Awards Manager
86/1 Sukhumvit soi 23
Bangkok 10110 Thailand.

VANUATU - Vanuato Amateur Radio Society Award.

CONTACT 6 DIFFERENT YJ8 STATIONS WHO ARE MEMBERS OF THE VANUATO AMATEUR RADIO SOCIETY SINCE 30th July 1980. Contacts may be CW, SSB or Rtty. Two contacts with the same YJ8 station will be accepted if they are made on different days, bands or modes. Endorsements for all one mode , band, or additional stations worked. GCR list and US$2.00 or 10 IRCs to :-

Awards Manager, VARS
P.O. Box 665
Port Vila
Vanuatu.

USA - Worked Central America Award

Work each of the countries of Central America :- HP HR TG TI YN YS and V3. No band / mode or time restrictions. GCR list and US$2.00 to :-

Thomas T Hoke K5ODZ (ex HC1TH)
4805 Willowbend Blvd.
Houston TX 77035

USA - Dear Mabel Award

For OM operators who wish to acknowledge the kind heart, willing hands and patient understanding of their XYL. She may not always understand what is right, or what went wrong or what just short-circuited in your pile of radio gear, but it's important to her OM, so it's important to her. OM's may nominate their XYL for this award. Send her first and last name plus your callsign. A beautiful 8 _ x 11 certificate plus a letter explaining just how she earned this award will be sent to the deserving XYL. Fee is US$4.00. Apply to: -

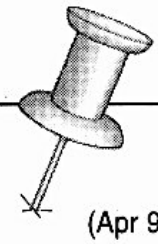
Florida Skip Magazine
P.O. Box 501
Miami Springs
FL. 33266

I hope that you find something of interest in this list of awards. Best of luck and best regards. 73 de VK3DP

CONTESTS

Ian Godsil VK3DID,
57 Nepean Highway, Aspendale, 3195

Greetings to all contesters.



Jun 5/6	IARU Region 1 Field Day	(CW)	
Jun 12	Portugal Day Contest	(SSB)	
Jun 12	QRP Day Contest	(CW)	(Apr 99)
Jun 12	Asia-Pacific Sprint	(SSB)	(Jan 99)
Jun 12/13	TOEC WW Grid Contest	(SSB)	
Jun 12/13	ANARTS RTTY Contest	(May 99)	
Jun 12/13	South American WW Contest	(CW)	
Jun 19	Merv Stinson Memorial Sprint	(CW/SSB)	(Jun 99)
Jun 19/20	VK Novice Contest	(CW/Phone)	(May 99)
Jun 19/20	All Asia DX Contest	(CW)	(May 99)
Jun 26/27	ARRL Field Day		(May 99)
Jun 26/27	Marconi Memorial Contest	(CW)	(May 99)
Jul 1	Canada Day Contest	(CW/Phone)	(Jun 99)
Jul 3	Jack Files Contest	(CW)	(May 99)
Jul 3	Australasian Sprint	(CW)	(Jun 99)
Jul 3	NZART Memorial Contest	(CW/Phone)	(Jun 99)
Jul 10	Australasian Sprint	(SSB)	(Jun 99)
Jul 10	Jack Files Contest	(SSB)	(May 99)
Jul 10/11	IARU HF World Championship	(CW/SSB)	(Jun 99)
Jul 10/11	Internet 6 Metres DX Contest	(CW/SSB)	
Jul 17	Pacific 160 Metres Contest		(May 99)
Jul 17/18	SEANET CW Contest		(Jun 99)
Jul 18	Colombian Independence Contest	(CW/SSB/RTTY)	(Jun 99)
Jul 23	ACORNZ 'Zip' Contest	(Phone)	(Jun 99)
Jul 24	Waitakere Sprint	(Phone)	(Jun 99)
Jul 24/25	Russian RTTY WW Contest		
Jul 24/25	RSGB IOTA Contest	(CW/SSB)	(Jun 99)
Jul 30	ACORNZ 'Zip' Contest	(CW)	(Jun 99)
Jul 31	SARS Sprint Contest	(SSB)	(Jun 99)
Jul 31	Waitakere Sprint	(CW)	(Jun 99)
Aug 1	YO DX Contest	(CW/SSB)	
Aug 7	SARS Sprint Contest	(CW) (Jun 99)	
Aug 7/8	Worked All Europe DX Contest	(CW)	
Aug 14/15	Keymen's Club of Japan Contest	(CW)	
Aug 14/15	RD Contest	(CW/SSB)	
Aug 21/22	SEANET SSB Contest		(Jun 99)
Aug 28/29	SCC RTTY Championship		
Aug 28/29	TOEC WW Grid Contest	(CW)	

Thanks this month to ZL2BIL SARS AHARC NZART VK4YZ

For the first time recently I was asked to adjudicate on a problem relating to a log submitted in a contest earlier in the year. Both the Contest Manager and I tried to be fair to the entrant, but the situation highlighted some facets that I found difficult to accept would happen, eg. working out-of-band-plan (FM in SSB segment); wrong use of calling frequencies; not having copy of the rules.

As we are about to enter our busy period in VK/ZL contesting, I ask all contesters to be sure that they have the rules and that they follow all the requests made therein, especially about where to send their completed log. There are quite a few contesters who think that a log should go to the same place every year. NOT SO!

In the case of VHF-UHF contests, I particularly ask that the rule of not using DX Calling Frequencies for contest calling, let alone exchanges, be strictly adhered to. Whilst we want you to participate and enjoy your contest, nevertheless we also expect that adherence to the published rules will be a part of that challenge.

If someone you know is a non-member of the WIA and would like to participate in a contest, please give him my address and I shall gladly send him a copy of the rules, rather than have errors in his log. As in community law, ignorance of the rules is no excuse.

My personal thanks go to those who took the trouble to participate in the Harry Angel Contest on ANZAC Day. I thought it went well, with good representation from most States on both CW and Phone. Thanks all.

73 from Ian VK3DID

Canada Day Contest

0000-2359z Thursday, July 1

This contest, which runs on July 1 each year to celebrate Canada's confederation, will take place this year on a Thursday.

Bands: 160-2m, CW & Phone. Suggested **frequencies**: (CW) 25kHz up from band edge and (SSB) 1850, 3775, 7075, 7225, 14175, 21250 and 28500 kHz. Check for CW activity on the half-hour. Note there are to be no CW QSOs in the Phone sub-bands and vice-versa. Any station can work any other once per band and mode. **Exchange**: RS(T) and serial number; Canadians will send RS(T) and province/territory. **Score** 10 points for Canadian QSOs including VE0 and 2 points for others. Canadians with RAC suffixes are worth 20 points.

Multiplier is Canadian provinces and territories (max 12), counted once per band and mode: VE1/CY9/CY09(NS); VE2/

VA2(QC,QU or PQ); VE3/VA3(ON); VE4(MB); VE5(SK); VE6(AB); VE7(BC); VE8(NWT); VE9(NB); VO1/VO2(NF); Yukon (YU or YT); VY2(PEI).

Final score equals points X multiplier. **Send** your log & summary sheet by July 31 to: RAC, 720 Belfast Road #217, Ottawa ON K1G 0Z5, Canada.

Australasian Sprints

The Adelaide Hills Amateur Radio Club is pleased to announce the fourteenth annual Australasian Sprints to be held on 3 July (CW) and 10 July 1999 (Phone), between 1100-1159z.

Both these contests, on **80 metres**, are open to all appropriately licensed amateurs in VK, ZL and P2 call areas using a single call sign. Contacts with any VK, ZL or P2 station during the contest may be counted, but a station may be claimed only once. A section is provided for SWLs.

Certificates will be awarded to highest scorers in each call area; overall winners; the highest scoring Novice operator in CW contest only, provided that this entrant is not entitled to another award for the CW Sprint; and to highest scoring SWL log in each call area.

Frequencies: CW 3.500-3.700MHz Phone 3.535-3.700 MHz. **Call** CQ Sprint/CQ Test/CQ Contest. **Exchange** serial number starting between 001 and 999, reverting to 001 when 999 is reached. RS(T) is optional but may be required for any other concurrent contest.

Logs must show time (UTC); callsign of station worked (both stations for SWLs), serial numbers given and received.

Summary sheet should show name and date of Sprint; callsign; name and address of operator; total number of contacts claimed and a statement that the operator has abided by the rules and spirit of the contest. Multi-operator club callsigns must list the callsigns and names of all operators. Any special conditions (mobile, QRP, etc) should be mentioned in the statement, along with any comments.

Send to AHARS Contest Manager, PO Box 401, Blackwood, SA, 5051.

Logs may be sent by packet to: VK5AFO@VK5WI.#ADL.#SA.AUS.OC or by e-mail to: cavidj@picknowl.com.au by 13 August, 1999.

IARU HF Championship

1200z Sat. to 1200z Sun 10-11 July

Bands: 160-10m (no WARC).

Categories: Single Operator, CW only, phone only, mixed; Multi-operator single transmitter mixed mode only. Multi-operator stations must remain on a band for at least 10 minutes at a time (exception: IARU member society HQ stations may operate simultaneously on more than one band with one transmitter on each band/mode, providing only one HQ callsign per band is used).

Exchange RS(T) and ITU zone(P2=51,VK4/8=55,VK6=58 and VK1/2/3/5/7=59). HQ stations will send RS(T) and official society abbreviation.

Score one point for QSOs within own zone or with an HQ station; three points for QSOs with a different zone in own continent; five points for QSOs with different continents.

Multiplier is total ITU zones plus IARU HQ stations worked on each band.

Final score is total QSO points from all bands X sum of multipliers from each band.

Include a dupe sheet for 500+ QSOs.

Send logs postmarked by 7 August to: IARU HQ, Box 310905, Newington, CT 06131-0905, USA. Official forms and an ITU zone/prefix/continent map can be obtained from the same address on receipt of a large SASE with two IRCs or equivalent.

Certificates to the top scorers in each category, in each state, ITU zone and DXCC country. Also, stations with 250+ QSOs or 50+ multipliers will receive achievement awards.

NZART 80m Memorial Contest

0800-1400z Saturday 3 July

VKs are invited to join ZLs in this annual contest to commemorate amateurs lost in World War II. It is open to **single operator** stations on **80 m**, fixed and mobile.

The contest has six operating periods, each of one hour, from 0800-1400z. A station may be contacted TWICE during each operating period (once on phone & once on CW), providing that such contacts are not consecutive.

Exchange RS(T) plus serial number commencing at any number between 001 & 300 for the first contact. On phone **score** 15 points for the first QSO with a scoring area, 14 points for the second QSO with that area, descending to one point for the 15th & subsequent QSOs with that area. The same scoring system is used with CW, except that QSO points remain at five for the 11th & subsequent QSO with that scoring area. Scoring areas are ZL & VK prefixes/areas & DXCC countries. The rules for SWL entrants are similar, except that the callsigns of the stations heard & being worked must be given and only the cipher of the station heard is required.

Send logs & summary sheets ASAP to: Memorial Contest, PO Box 20 332, Auckland 7,NZ. Nominate the category entered (Open; Phone; CW; Beginner's CW; QRP; Homemade SSB), & include a points summary showing the number of QSOs & points for each VK/ZL call area worked. Certificates will be awarded to the top three scoring VKs.

Colombian Independence Day Contest

0000-2400z Saturday 17 July

This is a worldwide contest, **bands** 80-10m (no WARC).

Modes: Phone; CW; (not mixed).

Categories: Single Operator (single all band), and multi-operator (single & multi-transmitter).

Exchange RS(T) plus serial number.

Score five points per HK QSO; three points per QSO with stations in another country; one point per QSO with stations in same country; and 10 points for QSOs with official HK HQ stations.

Multiplier is the total countries, including HK plus HK call areas, worked on each band. "HK" includes all Colombian prefixes.

Final score is total QSO points from all bands X sum of multipliers from all bands. At least 2% of QSOs must be with HK and 10% with stations outside your own country.

Send logs postmarked by 26 August to: Colombian Independence Day Contest, Apartado 584, Santafe de Bogota, Colombia.

Waitakere 80m Sprint

Phone: 1000-1100z Saturday 24 July
CW: 1000-1100z Saturday 31 July

This 80m-sprint contest is open to all ZL & VK amateurs. In fairness to other amateurs, it is requested that no linear amplifiers be used in this contest. Call "CQ Sprint" and **exchange** serial numbers commencing at 001 and incrementing by one for each contact. RS(T) is not required.

Logs must show stations worked, with serial numbers sent & received. Attach a **summary sheet** & send log to: Sprint Contest Manager ZL1BVK, 14 Takapu Street, Henderson, Auckland 1208, NZ, to arrive by 1 September. Alternatively, logs may be sent via packet, using three columns only with no commas or other delimiters, to: ZL1BVK@ZL1AB. **Certificates** will be awarded to the overall winner; the best score in each ZL call area & the three best VK scores.

'Zip' 80m Contest

Phone: 0800-0900z Friday 23 July
CW: 0800-0900z Friday 30 July

Instituted last year, this is contest for low

power enthusiasts from ACORNZ, and all VK amateurs are invited to join in, irrespective of power levels.

Call "CQ Zip" and use **frequencies** 3560 - 3620 kHz (Phone) or 3530 (centre)(CW). **Exchange** RS(T) plus serial number.

Score one point for QRP to QRO ZL; five points for QRP to QRO DX; five points for QRP to QRP ZL & 15 points for QRP to QRP DX. The reverse applies to DX stations. "DX" is any station outside ZL. No multipliers. Honour system applies. Sign /QRP if using up to 5 watts CW or 10 watts Phone.

Send logs showing mode; date; time; station worked; RS(T); points claimed per contact and total points to: Bill Cox ZL2BIL, 5A Konini Grove, Raumati Beach 6450, NZ, by 13 August 1999. Please contact Bill for information about ACORNZ.

RSGB Islands on the Air Contest

1200z Sat-1200z Sun 24-25 July

This contest is intended to promote contacts between qualifying IOTA island groups and the rest of the world and to encourage expeditions to IOTA islands. Sections are: IOTA Island Stations (ie those with an IOTA reference); World & SWL. You can enter as CW only, SSB only, or mixed mode. Single operator stations can enter as unlimited (no time limit), or limited (12 hours max, with off periods at least 60 minutes long and marked in the log).

Use **80-10 m**, avoiding 3.56-3.60,3.65-3.70, 14.06-14.125 and 14.30-14.35 MHz.

Exchange RS(T) plus serial number, plus IOTA reference number if applicable. Stations can be contacted on both Phone and CW on each band. Use the same serial numbering system for both modes.

Score 15 points per QSO with an IOTA station (including UK); five points for stations in another DXCC country; and two points per QSO with one's own country or IOTA reference.

The **multiplier** equals the total IOTA references per mode per and, added together.

The **final score** equals total QSO points X total multiplier.

For each band (but not each mode), submit a separate log, multiplier list and dupe sheet. **Send** your log and summary sheet to: RSGB IOTA Contest, PO Box 9, Potters Bar, Herts EN6 3RH, postmarked no later than 26 August. A comprehensive range of awards is offered to the leading stations in each category, section & continent.

Southside Amateur Radio Society Sprints 1999

SSB: Sat 31 July CW: Sat 7 August

Chosen to coincide with the Waitakere Sprint, the **object** is to contact as many P2, ZL and VK stations as possible. **Bands**:10, 15 and 80 metres. **Times**: 0000z - 0200z on 10 and 15 m; 1000 - 1100z on 80 m.

Exchange serial number only starting at 001. Stations may be contacted once per hourly block, provided that such contacts are not consecutive, or that at least five minutes have elapsed between contacts.

Score three points on 10 m; two points on 15 m; one point on 80 m. QSOs with VK Novice/Limited stations become multipliers.

Final score is total QSO points times total VK Novice/Limited multipliers.

Logs should show all details of date, times UTC, callsign, exchanges, points claimed. Separate logs for each mode, please.

Summary sheets should show callsign; name and address; mode; claimed scores and signed declaration.

Send logs by mail to: SARS Contest Manager, PO Box 294, Woodridge 4114, Queensland; by packet in ASCII format to: VK4WSS@VK4PKT.#BNE.QLD.AUS.OC; by e-mail to: <jabba@powerup.com.au>

Certificates to first three place-getters in each mode and special certificate for combined modes.

SEANET Contest

0000z - 2400z CW: Sat 17 - Sun 18 July Phone: Sat 21 - Sun 22 August

Object is for stations outside SEANET region to work as many SEANET stations as possible.

Bands: 160 - 10 metres (no WARC).

Categories: Single operator all bands; single operator single band; multi-operator single transmitter.

Exchange:RS(T) plus serial number.

Score one point for each QSO. QSOs in own SEANET country count for country credit only.

Multiplier is total number of SEANET countries X three.

Final score is total multiplier X total QSO points.

Send logs by 31 October to: SEANET Contest Manager, Eshee Pazak 9M2FK, PO Box 13, 10700 Penang, Malaysia.

SEANET countries: A4/5/6/7/9 BV BY DU EP HL HS JA JD1 JY KH2

P29 S2 S79 VK VQ9 VS6 VU V8 XU XV XW XX9 YB ZK ZL ZL9 3B6/8/9 4S7 4X 8Q7 9K2 9M2/6 9N 9V

The Merv Stinson Memorial Sprint

from Charlie Strong VK4YZ 1000z - 1000z Sat 19 June

The Merv Stinson Memorial Sprint will be held in June each year and run by Redcliffe & Districts Radio Club. This contest is held to remember the assistance and effort Merv gave to help many people in gaining their Certificates of Proficiency and the Redcliffe & Districts Radio Club during club activities such as contesting the John Moyle Field Day.

Purpose of the contest is to aid people in attaining proficiency in procedures, fine tuning of equipment and introducing people to the sport of contesting.

This contest is one of three sprint contests over a three-month period. It is hoped that contestants entering all three sprints could enhance and improve their contesting skills and equipment over this period.

Due to the short period of the contest, any person investing one hour on a Saturday night can be competitive and has a chance of winning.

Object of the contest is to contact (or log QSOs if an SWL) as many stations as possible in the one-hour period without duplication using SSB or CW. Any contact between Australian, New Zealand, Papua New Guinea and surrounding countries on the 80 Metre band is valid.

This contest is open to all licensed amateur stations and short wave listeners. Groups are allowed but must only use one callsign and transmitter.

The contest period is from 1000z to 1100z on Saturday, 19 June 1999. This is the same weekend as the VK Novice Contest, therefore extracts from Novice Contest Logs between 1000z and 1100z will be accepted as logs for the Merv Stinson memorial Sprint.

Exchange RS(T) + serial number.

Log must show for each contact the time UTC, callsign (or callsigns for SWL) contacted, exchange sent and received.

A log must have a cover sheet containing name, address, callsign, date of contest, total number of points claimed and a statement that the operator/s abided by the rules and spirit of the contest.

Any comments should also be included.

Send logs to: Contest Manager, Redcliffe & Districts Radio Club, P0 Box 20 Woody Point, Qld 4019 by Friday 9 July 1999.

The Contest Managers decision is final and can disqualify any entry that is in violation of the rules and spirit of the contest or has an excessive number of duplicate contacts claimed as valid contacts.

Certificates will be awarded to the highest score over-all and in each of the Australian call areas and to the highest scores in New Zealand, Papua New Guinea and all other countries combined for both SWL and station logs

ar

SPOTLIGHT on SWLing

by Robin L. Harwood VK7RH
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(03) 6344 2324
E-mail: robroy@tassie.net.au

Kosovo Crisis Continues

The Kosovo Crisis continues and the war of words has been fierce between the protagonists.

NATO has been targeting both studios and transmitters of the Serbian media. The external senders of Radio Yugoslavia are not in Serbia but in the Serbian enclave of Bosnia-Herzegovina.

They haven't been targeted but the links to the site within Serbia were hit and some days they are not there. Belgrade is supposed to be on 9580 in English at 0430 UTC, beamed to the West Coast of North America and Europe.

To this area, they are on at the highly unusual time of 1900 UTC on 7230. That is 5 am locally in the eastern states and two hours earlier in the west. I think, somehow, that there would be few listeners at those times.

Naturally international broadcasters have introduced extra transmissions directed to the Balkans. The large forced exodus of hundreds of thousands of refugees from Kosovo has separated many families and friends throughout the area and unable to keep in touch.

Contact programs have been introduced over some stations and over the domestic Albanian networks.

Short wave has been vital in this region as the Internet has been turned off or heavily censored within Serbia. Satellite television is only available to a select few.

The domestic television has been bombed which has seen many relying on short wave to get additional information on the crisis. The refugees sadly have nothing.

Perhaps a few may have small multiband radios, but my information is that anything of value was taken from them by the Serbians.

The VOA has also been carrying live the daily NATO media Briefings in Brussels. These are at 1300 UTC. The BBC World Service has been giving extensive coverage with background to the conflict and ongoing developments.

They have also had phone-in programming allowing people within the region to voice their comments to the World.

I personally have found the VOA *"News Now"* format disappointing, as it seems to be unbalanced and they are heavily pro-American.

One would also conclude from listening to the VOA, that NATO is primarily made up of Americans.

The truth is that there are 18 other nations and not all are involved in the Kosovo crisis.

Another interesting station in this region is the Croatian Radio in Zagreb. They are on 13720 kHz via the Juelich Senders in Germany at 0700 and have extended their English news bulletins.

They focus primarily on Croatian news and the NATO campaign, which is right on their doorstop, yet very little seems to be mentioned on Kosovo and the refugees.

Internet Audio software

I have installed a new software program called "Vtuner" by Real Networks. This is "tuner" which allows you to find the various Real Audio sites on the Web.

There are over 2,000 different sites you can download. Most use Real Audio although there are other Streaming Audio players about, such as Windows Media Player and Spinner.

However the Real Player has unofficially become the default standard. Most of the Players are free yet upgrades are not. "Vtuner" costs about $US 14.95 and only works with the G2 Player by Real Audio. The Windows Media Player uses a different method but is said to be compatible in some areas. To get "Vtuner" go to the Real Audio home page.

The other format of streaming audio is MPEG 3. A lot has been written about this format which is primarily a music format.

Unlike Real Audio files, which cannot be saved to the HDD, files in the format of MPEG 3 can and there are several MPEG players available including a detachable player which can play these files away from the computer.

Internet List for ordinary short-wave listeners

There is an Internet List specifically on short-wave programming.

As you may be aware, there are several lists for Dxers and amateurs. Yet the majority of people listening over shortwave are not necessarily interested in these, a list catering for their needs has recently been started.

For further details go to the following weblink:

http://www.topica.com.

It is a moderated list and discussions about Dxing and amateur related topics are catered for in other lists and forums.

Well, that is all for this month. Until next time, the very best of listening and 73,

Robin L. Harwood VK7RH

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Special Event Planning for Amateur Radio (or any organisation)

Bob Harper VK4KNH
PO Box 288 Beerwah 4519
Bobharper@bigpond.com

***'Failing to plan is planning to fail'* is a common saying.**
It's especially true when you are using volunteers and your own free time to put on an event
Here's how to add that professional touch to your special, occasional effort

AMATEUR RADIO HAS VERY few special events compared with some other organisations.

Many seem to retain members purely as a result of running events for their members to attend, -there being no other apparent purpose for some of these organisations to exist. It appears then that there is much to be gained by organising gatherings for your current and prospective members.

The few HamFests that are held each year, (or perhaps every second year!) are usually successful perhaps because they are so far apart from each other, -both in time and location. Each successful event has one common factor; they are well planned.

I cannot stress how important that is; -well planned events generally work. A maxim favoured by NASA puts it simply as: "***Plan the work and work the plan***."

The not so successful events may well have had many hours put into the planning but may still have been poorly planned.

I am sure that we have all been to meetings where every possible thought was aired and considered yet when it is all over the only decision made was on the date of the next meeting. Every thing else was put off or had insufficient data to allow a decision to be made. The too hard basket got more from the meeting than anybody else did.

I haven't planned an Amateur Radio event for many years now but have been involved in the planning of many other events.

The basic team effort required is the same. I urge you to make it a team effort, and to involve members, delegate responsibility and monitor the proceedings.

If something does go wrong, you will be in a better position to look back and isolate the cause. Please remember to identify a cause rather than place blame. It doesn't matter who stuffed up but it is important to know how to avoid stuffing up next time.

What follows are some comments and ideas collected from many sources, including AR, 73 Magazine, CQ Magazine, various club newsletters, Scouting and TAFE publications.

Many are the result of notes taken by myself from comments made by others at various meetings. I hope that you find at least some of interest and, more importantly, of value in planning your next event.

The Shopping List Approach

I think that the best idea is for a group of interested people to get together, appoint a scribe, and go through this list.

Hopefully you will find other topics to add to the list, which is great. My only request is that you forward any extra points to me so I can update my list and, of course, share it with others.

Concept

What is the Aim and Objectives of the event??

You must answer this one !!!

What are you trying to achieve?
Who are you trying to please??

- Is it a HamFest? What is a HamFest? What does the term mean to your organisation?
- Is it a Social? -eyeball party, picnic, BBQ, etc.
- Is it a Working Bee?

  And most importantly, how will you reward those who give freely of their precious time? Perhaps every working bee should eventually turn into a social.
- Is it your AGM? Assuming that the average member attends meetings then they will probably attend the AGM. Yes? Well maybe but to be sure it would be wise to add some carrots to the stew. Again the social side becomes important.

How about a Swap and Sell, Garage Sale or Ham Radio Flea Market.

They are all essentially the same idea with different names.

Why not look for other names for a change? Try a US style TailGate Sale or a Hot Rod/Drag Racer style Swap Meet? "***You wanna see what I've got in my boot mate!?***"

How about a Ham Radio Convention, AR-EXPO, Technical Seminar, Antenna Compendium or an AR Field Day?

Invite the distributors to your club for a Product Launch?

Is it too late to have a clubhouse Opening? Or a re-opening?

A maxim favoured by NASA puts it simply as:

"*Plan the work and work the plan.*"

Name

Include your club's name or other suitable identification.

Eg. Gold Coast HamFest, Hamboree, Gympie GoldFest, Sunshine Coast SunFest, BARCFest, Townsville Amateur Radio Convention.

Rockhampton Radio Ball, Lismore SummerFest (SpringFest etc), Sydney Swap Meet, Redcliffe Radio Bazaar, etc. Ham Luncheon!! -Sounds like a sausage.

Outline

Write a paragraph about what you intend to do.

Don't try to stretch this into a report. Stick to the main details that you will give for initial advertising to traders etc.

Some people call this a Mission Statement. A statement that expresses what you want to achieve.

The desired result of your effort : a well attended event that literally stops the traffic

Nominate

Select a team and appoint people to jobs. Be specific and record their names! The whole club may be involved but NAME at least the following:

- The Event Co-ordinator, Treasurer,
- Secretary, PR Officer,
- Clubs Liaison Officer,

Other Organisers for Individual Tasks - eg. Home Brew Organiser.

Add more jobs/members as required.

Meeting Procedures

Use proper meeting procedures including: -

- Proper Agenda,
- Action Sheets,
- Meeting Dates,
- Places and Times.

Draw up a TimeLine and set Way Points. (Deadlines).

Include a Post Mortem Meeting to decide on future improvements and plans.

Time and Place

Choose a suitable date noting:

- Other events,
- distances travelled by attendees.

Always choose a second date in case you lose the first choice.

Choosing a Location

- Space - Indoors and Outdoors
- Extra coverings where required - eg. Tents, Tarps etc.
- Look for parking options, proximity to Transport etc.
- Consider the need for and quality of the following facilities - Toilets, Kitchen, Stage, PA System etc.
- Other interests - near shopping centre, park, playground, beach etc.

Personalities and Positions

Who will chair the event?

Who will open the event?

Who might be encouraged to speak?

Who will close the event?

Who will be the spokesperson/contact prior to the event?

Advertising and Publicising

(They are different! You pay for advertising - publicise as much as you can.)

Get to know at least one local reporter on each paper, radio station and TV channel that serves your area.

Initial Advertising

Notices given early: - Pre-Planner Announcement to Traders, Magazines etc.

Call for Technical Papers,

Call for Expressions of interest from other clubs and organisations that may put on a display.

Call for Early Bookings (as a measure of interest.)

Main Advertising

Advertise Traders, Events, Displays, Competitions, Lectures, Date, Times, Place, Transport etc.

Final Advertising

Local and Media Advertising to gain support from community and community based media. Remember a story on the event is publicity and is often better than advertising.

Forms of advertising

Use all the forms available:-

- Word of Mouth - Best and most

Early to bed,
Early to rise
Work like Hell
and Advertise

convincing - peer pressure. This is also cheap.

- Club Newsletters, Q-News (Sunday Broadcasts), QTC (Divisional Newsletter), AR, et.al.
- Local Paper, Community Paper, Community Radio.
- Paket, ATV, Club Newsletters of other clubs.
- E-mail lists, Web sites etc.
- Create a team Tee-Shirt and/or Cap for the organisers - a simple gesture to advertise, gain member enthusiasm and form the organisational "cliche". (Some may disagree on principle, but watch it work.)

Assistance with Advertising Costs

Think who else may benefit by the influx of people and hit them for advertising assistance.

The Local Tourism/Commerce Board - Show how your event will promote the locality and they may help with printing a pamphlet with your information but including places of general interest to your visitors.

You may be able to arrange discounted entry to local sites based on a registration at your event.

Accommodations - seek special rates or offer "free" advertising if the hotel/motel pays to print the flyers.

What types of event memorabilia could you sell -Tee-shirts, Caps, Patches, Pins, and Mugs? Remember that to over-order could drain any profit from the exercise. One way to avoid losses is to make sure that memorabilia can be sold off later or at the next event, by not specifically dating the item.

Pre-Registration

Pre-registration allows the organisers to gauge how many people might be attending and to make better planning decisions.

So how can you make people pre-register? Why would ***you*** pre-register? What benefit would you expect? Would you expect faster entry by flashing your pre-registered card? Would you expect free entry to some other event or part of the event?

You, the organiser need to decide on whether it is an advantage for you to take pre-registrations and what you can offer to encourage pre-registration.

Pre-registration may be included as a part of booking for the event dinner - or accomodation and meal bookings as a kind of package deal.

Travel

How can you help people get to your event?

Should you offer pick-up from the train/ airport to the site? Perhaps there is a member with a people mover, who may be prepared to help. But beware of charging for the service, as you would be setting yourself up as an illegal taxi service.

Could you find enough attendees for an organised bus trip from other major centres to your event? Eg a bus trip for Brisbane Hams to the Sunshine Coast Sunfest?

Bookings

Set the various fees early - Table Space, Attendees, Trade Displays, cut from food stalls etc.

Allocate Space and Location on a Room Plan. If you aren't given one then have one drawn by a member. Send out the room plan with both the invitation and the acceptance letter. Best if you can have a few early bookings already on there to encourage confidence.

Catering

What numbers are expected? This can be a very difficult question. Perhaps an estimate could be made based on past or simular experiences.

Ultimately you have to make a decision based on what risk you are prepared to carry and what plans you can devise to either dispose of excess produce or source for excess requirements during the event.

A word with your suppliers may help, as they would have already worked the problem through with other groups. Butchers may keep extra meat on hand for you and members may be lined up to buy excess at your purchase prices or better.

Catering to the right number is the trick

Providers - Club Wives and Supporters? Local School Canteen Ladies, Rotary, Lions, Apex etc. Commercial Interests?

Drinks - What is available? How will you keep it cold (or Hot)? Is it worth getting into licensed sales?

Stall Holders Lunch - provide a simple delivery service for those that cannot leave their stall. Let them know beforehand so they will use the service.

Provide enough tables and chairs for eating and provide some well-marked bins.

Tables and Chairs for Stalls - based on bookings. Party Hire places provide tables but also try the local Scouts and Guides.

Child-minding - Provide for the children by organising some of the following - Playground, Face-painting, Videos, Indoor and Open Games and Competitions.

Wrap up BBQ for stallholders and organisers? Here is an opportunity to collect all of the comments on how to improve it next year.

All sorts of fox hunts require planning

Choosing Side-events and Displays

There will always be a main objective and some side -events. The following suggestions will not work at every event but a selection will be appropriate to almost any event. The secret is in the balance. You need to provide an interest for every "character" there.

Swap and Sell - under whatever name you choose.

Auction - preferably an auction of donated goods but perhaps on a commission basis. Use an experienced auctioneer if you can, as they can encourage pockets to open wider than anyone else.

Crystal Set Competition - This is a great way to encourage beginners to understand the properties and needs of a good receiver. There are many possible variations but prizes could be given for appearance, engineering standard, sensitivity, selectivity and audio quality.

Trade Displays - Equipment, Supplies, Maintenance, Magazines, Training, Services and Bookshops.

Technical Lectures and Presentations - Either select a theme, or make a program of lectures spanning the whole day with popular lectures repeated to allow more people to attend. Avoid programming lectures during the opening or other speeches.

Slide Show - make it either impressive or funny. Use captions to otherwise standard photos eg [Flash of Lightning] "Bob finally got the DX contact he was after."

Use a "comedy act" to open and get attention - every club has one but make sure it's presentable and avoid personal references.

Fox Hunt - in any of the many variations. Avoid events that require a large investment in specialised equipment.

QSL Boards - members own and a display collection. Have a prize for the oldest, rarest, most appealing etc QSLs brought and displayed at the event.

QSL Shoot - Cover a notice board with cards from attendees -first in best dressed so to speak. Cards must not overlap. At an appropriate time, select and blindfold a suitable person to throw a dart at the board, which will presumable, hit only one card. The card owner receives a prize.

QSL in/out Bureau -with the co-operation of the club QSL Manager.

WIA/Divisional Stand - Membership, Suggestions, Reports, Bookshop Etc.

Club Stands - Club membership, history, achievements etc.

SIGs - Special Interest Groups - displays by ATV, SSTV, QDG, VHF, WICEN, Competitions, DX etc.

Demonstrations - show hams what happens, how it works, sounds or looks and let them try it.

Specific Construction Competition - eg the best made 2m J-pole, best homemade CW Key etc.

Ham exams in a quiet area or outside of normal hours (before or after).

Arts, Crafts, Plants, et.al. for the "non-participating partners"

Public Relations Stall - let those non-amateurs in on what is happening, what the club/AR has done and who for.

Timetable - what Day/S, TIME/s

You need to promote the following times and perhaps add other times that are important to your event.

Open to Traders/Stall Owners
Open to Attendees
Closing Times
Shut up times - When allmust be out.
Opening and Closing Ceremonies
Lectures
Competitions
Prize Presentations

Insurance

We now live in a time where people are likely to sue for minor injuries or losses. You need to consider these insurance needs and perhaps talk with an insurance broker. Consider the following.

Public Liability.
Property Loss - Theft from Traders stalls.
"Rained Out" Insurance.

Decorations

How many times have you gone to an event in a hall where the dominating feature was the echo? Dress it up as if it were your clubhouse. Make it look lived in or make it inviting. People don't stay long where they're not welcome.

Use Banners denoting special areas and groups, the ATV stall, the entrance, food hall, toilets etc.

Hang light items from the ceiling where space and attachment points exist - Banners, Streamers, Flags, Beam Antennas etc.

Use good old US style bunting, flags and streamers. Hang a string of tee-shirts from previous events.

Use display boards and room dividers to break up and define areas, reduce noise and visual pollution. A salesman wouldn't try to sell their product with an opposition product in clear view behind him. Contain the person's view to the display.

Use Australian and City/State flags behind the speakers, or banners with the event name or from advertisers and sponsors.

Encouragements

QSL Board - prize for best presented card, rarest card etc.

Prize for club with most members in attendance.

Door Prize for lucky ticket number etc.

Home Brew Competition Judged by a prominent Engineer, Radio Inspector etc.

Best Restored "Old Radio", Valve Radio, Ham Radio, Test Equipment etc.

Best QRP set, Antenna, etc.

Prize for best Construction or Technical Article presented at event. Publish papers afterwards by pre-subscription.

Prize for best AR Art, Photo etc.

CW - Speed and Accuracy Tests.

Security

Have a member patrol outside and quiet areas. It would not be the first time that car thieves have attended a "social" event.

Communications

List the following on all communications for the event. Remember to list all contact numbers for before the event as well as during the event. Make a list of numbers for all the organisers especially their mobile numbers, as some communications may need to be private during the event.

Phone Contacts, Fax Contacts, email/web Contacts

Radio Net times and frequencies, Repeater Call-in on approach for directions. (HF as well in some cases)

Contact List for Police, Fire, Ambulance, Hall Owner, Electrician, Plumber etc for emergency contacts.

Parking

Allow sufficient space and organise the parking so space is not wasted. People will spread out to fill whatever space see making late arrivals harder to cater for.

Security - note the comment above.

Cleanup

Organise members and others to clean up or be prepared to pay for others to do it for you. (It may be cheaper than you think!)

Finally

The organisers are often the last people to enjoy an event. They are so busy that they see nothing, miss everything, miss out on the freebees, don't get fed, and once underway, can't wait for the event to end.

If possible arrange for every organiser to be relieved at various times during the day so that they too can enjoy their creation.

Every organiser should have a notepad to record the items they now know they should have done another way. If not they will have the same déjà-vu experience next year.

Every minute spend working out the problems beforehand will make the day run smoother and the event more enjoyable.

I hope your event is so fantastic that you'll be proud to relate your experiences in this magazine for others to learn from.

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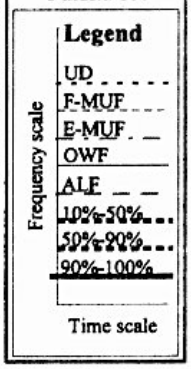
HF PREDICTIONS

by Evan Jarman VK3ANI
34 Alandale Court, Blackburn Vic 3130

June
1999
T index: 116



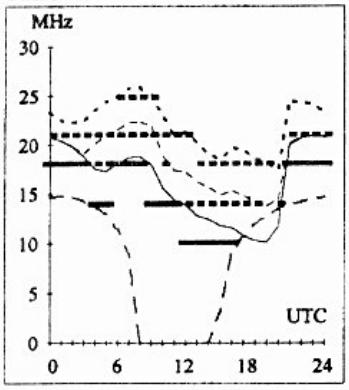
These graphs show the predicted diurnal variation of key frequencies for the nominated circuits.
These frequencies as identified in the legend are:-

- Upper Decile (F-layer)
- F-layer Maximum Useable Frequency
- E-layer Maximum Useable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency (D region)

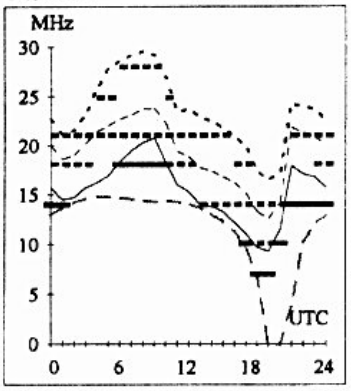
Shown hourly are the highest frequency amateur bands in ranges between these key frequencies; when useable. The path, propagation mode and Australian terminal bearing are also given for each circuit.
These predictions were made with the Ionospheric Prediction Service program: ASAPS version 4.

ar

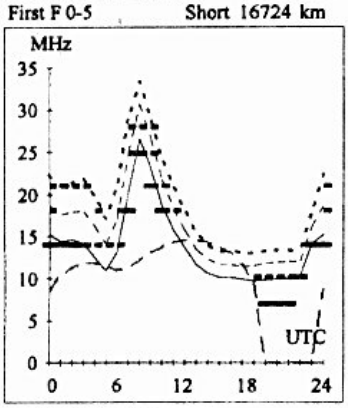
Adelaide-Anchorage 30
First F 0-5 Short 12466 km



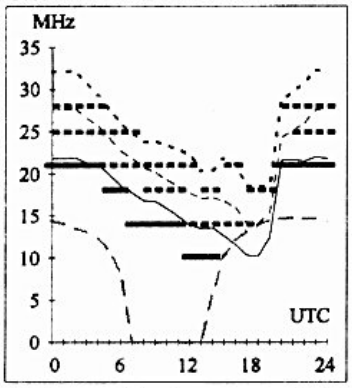
Brisbane-Berne 315
First F 0-5 Short 16321 km



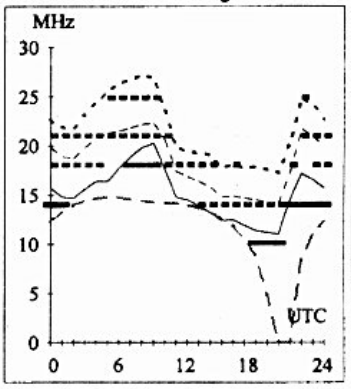
Adelaide-Dakar 233
First F 0-5 Short 16724 km



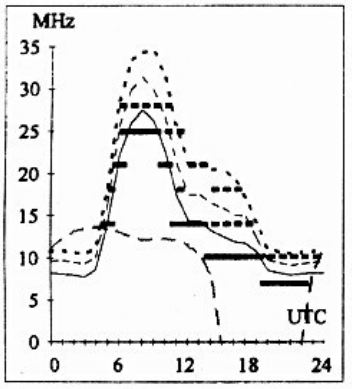
Brisbane-Los Angeles 59
Second 4F3-8 4E0 Short 11564 km



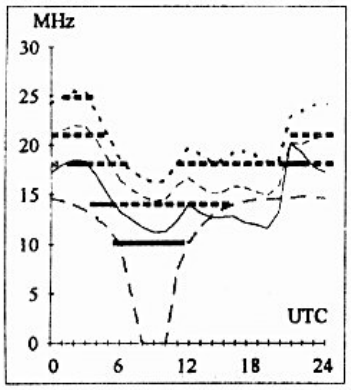
Canberra-London 316
First F 0-5 Long 16982 km



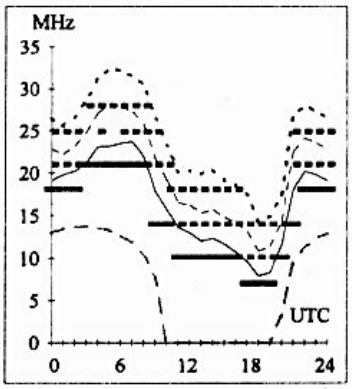
Darwin-Capetown 231
Second 4F3-5 4E0 Short 11221 km



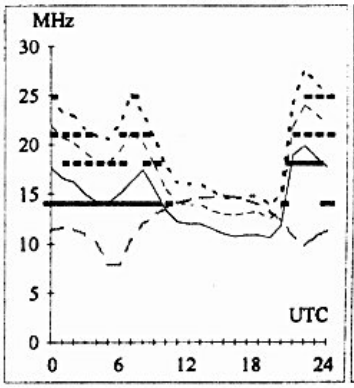
Adelaide-Ottawa 58
First F 0-5 Short 16901 km



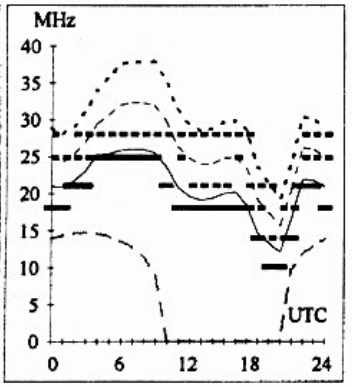
Brisbane-Osaka 344
Second 3F6-12 3E0 Short 7149 km



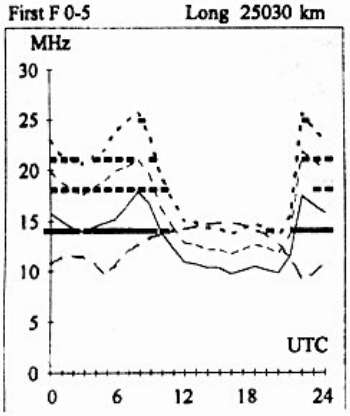
Canberra-London 136
First F 0-5 Short 23042 km



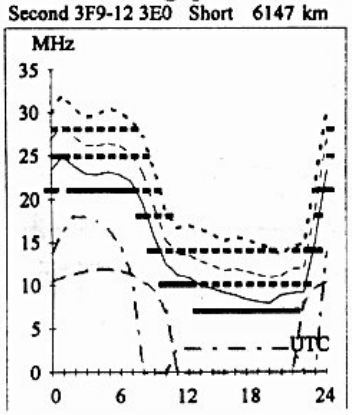
Darwin-Tokyo 10
First 2F4-10 2E0 Short 5436 km



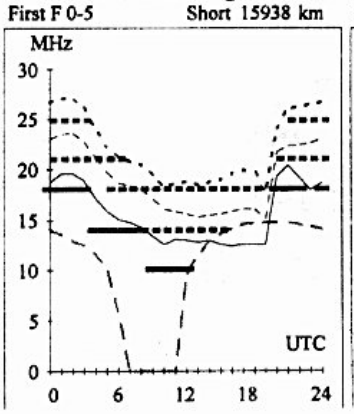
Adelaide-Stockholm 142
First F 0-5 Long 25030 km



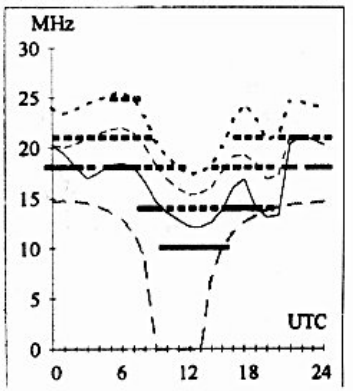
Brisbane-Singapore 293
Second 3F9-12 3E0 Short 6147 km



Canberra-Washington 70
First F 0-5 Short 15938 km

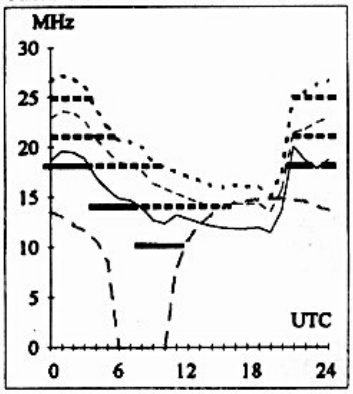


Darwin-Vancouver 42
First F 0-5 Short 12212 km

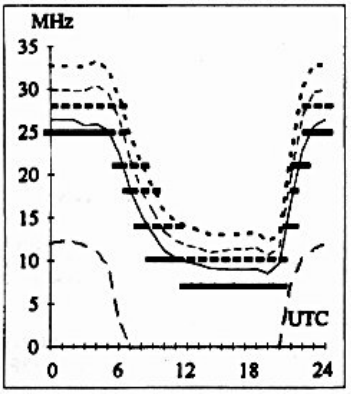


HF PREDICTIONS

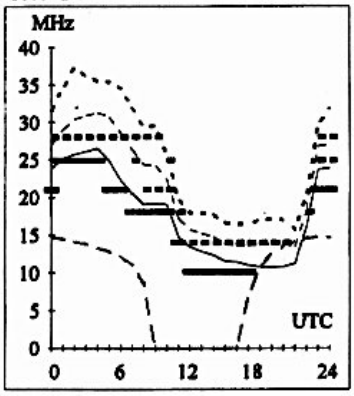
Hobart-Boston 78
First F 0-5 Short 16895 km



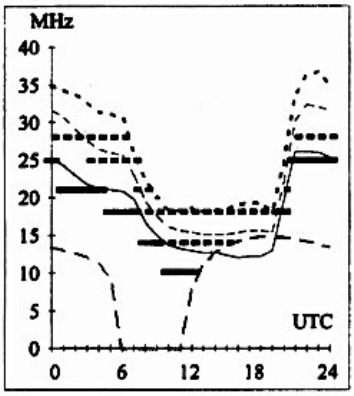
Melbourne-Auckland 97
First 1F4-6 1E0 Short 2623 km



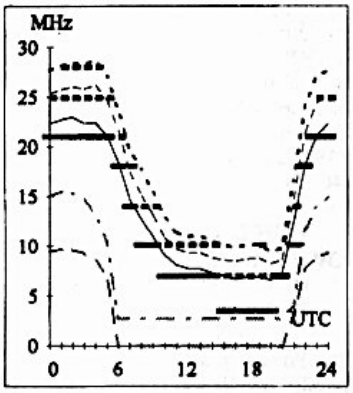
Perth-Honolulu 70
Second 4F4-8 4E0 Short 10905 km



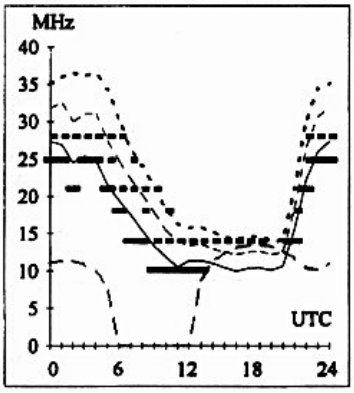
Sydney-Miami 86
First F 0-5 Short 15026 km



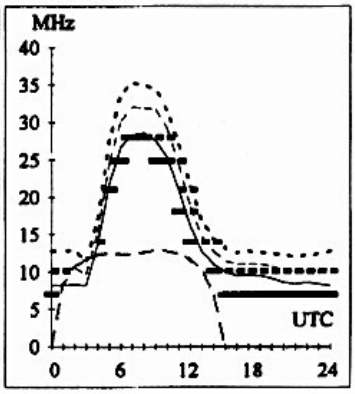
Hobart-Christchurch 101
First 1F9-10 1E0 Short 2040 km



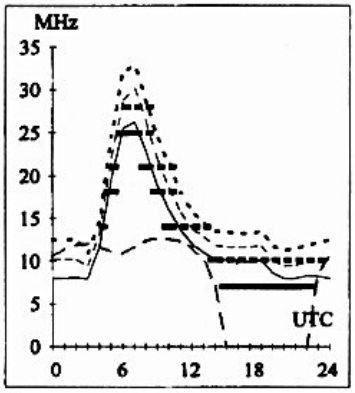
Melbourne-Lima 133
First F 0-5 Short 12950 km



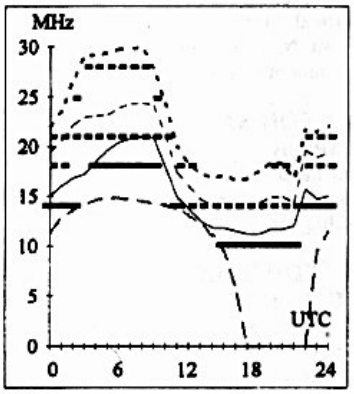
Perth-Johannesburg 248
First 3F4-5 3E0 Short 8315 km



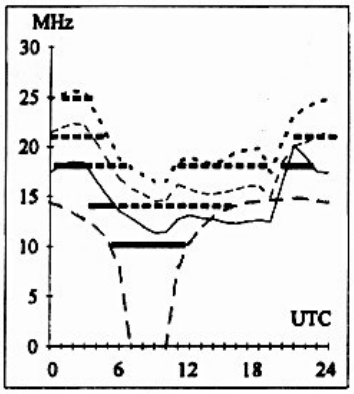
Sydney-Pretoria 230
Second 4F4-5 4E0 Short 11063 km



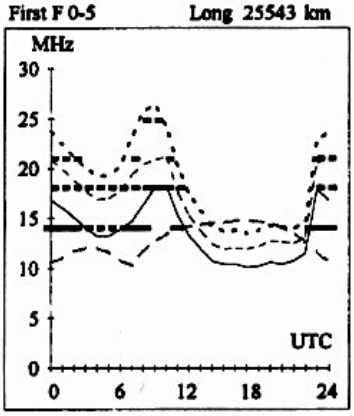
Hobart-Moscow 312
First F 0-5 Short 14962 km



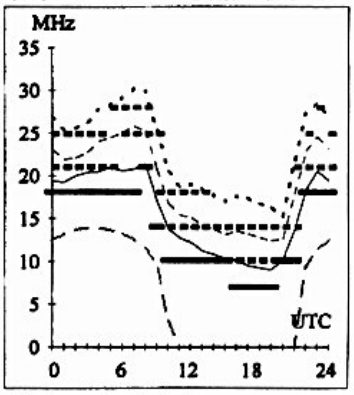
Melbourne-Montreal 62
First F 0-5 Short 16731 km



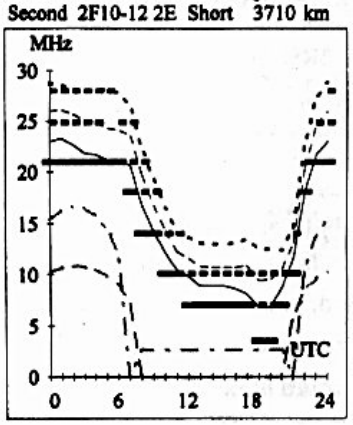
Perth-London 133
First F 0-5 Long 25543 km



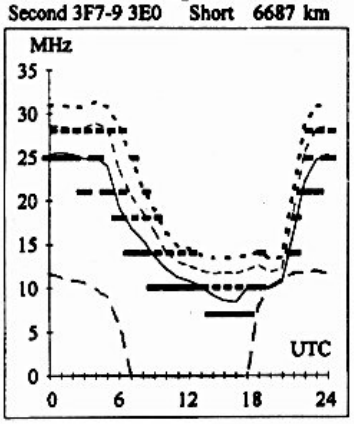
Sydney-Taipei 330
Second 3F6-11 3E0 Short 7261 km



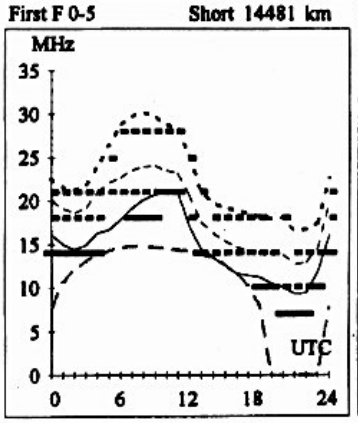
Hobart-Port moresby 360
Second 2F10-12 2E Short 3710 km



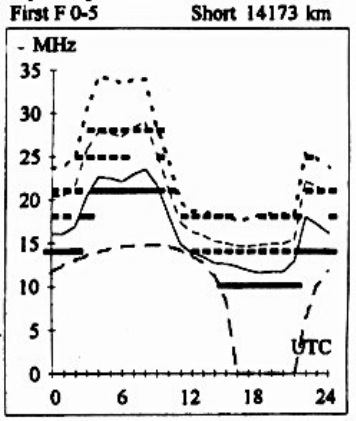
Melbourne-Papeete 90
Second 3F7-9 3E0 Short 6687 km



Perth-London 313
First F 0-5 Short 14481 km



Sydney-Tel Aviv 287
First F 0-5 Short 14173 km



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- Deceased estates Hamads will be published in full, even if the ad is not fully radio equipment.
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- QTHR means the address is correct in the current WIA Call Book.
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FOR SALE ACT

• **HALLICRAFTERS** SR-150 Fixed/Mobile Transceiver. 80 through to 10 metres with transformer manuals spare valves. Good condition. reasonable offers considered. Ed VK1NBH 02 6251 2312 email gudruned@telstra.easymail.com.au

FOR SALE NSW

• **YAESU FT 209** RH - 2M xcvr handheld - 140-150 MHz - 5 Watts output case instruction book- VGC - $ 190.= - PETER VK2BPO - QTHR - PH. 02 9713 1831

• **ICOM 740 SS HF** Txcvr with WARC Bands integral PS also use mobile Top line features 2 VFO`s etc Excel. performer sn 0286806n $550.optional ATU with meter $100 Email vktwoclb@zed.org or phone Les 02-9997-110

• **LIVERPOOL AUCTION** Sat. 10th July scout camp Cambridge Ave, Glenfield. Sellers in 1000 hrs, buyers in 1100hrs. Auction commences 1200hrs. Sausage sizzle, cool drinks, tea and coffee. Enquiries to Garry VK2TSR 02 9631 9005. Submitted by G.Barker Hon. Sec. LADARC. P.O. box 690 Liverpool 02 9631 9005.

FOR SALE VIC

• **KENWOOD TM-742A** Dual-band 50W FM XCVR has 2M/70CM fitted and space and front panel controls for optional 10/6M-23cm third band. Had home use only, mint condition $750 LenVK3BMY 5862 3116 QTHR

• **YAESU FT-736R** 2M/70CM All-Mode XCVR in mint condition 20 months old. inc. int. power supply, full satellite facilities data in/out etc. Will accept two additional band modules and ATV option. Best offer over $1600. Len VK3BMY (03 5862 3116 QTHR

• **ROTATOR** H.A.M III heavy duty inc. transformer manual ex. con. $365. Rotator SSY King type 303 medium duty inc. box, brand new, $250. I.C.45A 70cm tranceiver, manual and cradle ex. con. $180 ono. I.C 02N/I.C.02A/AT tranceiver inc. external speaker, mic, manual 137/153 MHz $90. Kenwood TS-50S as new inc.manual c. diagram $ 1200ono.

Harry VK3AXT QTHR 98025704

• **KENWOOD** h-held TR2600A 2mtr txcvr, .3-3w. c/case, headset, chrgr-stand, SN5022246 $75. ono. IC28A/E 2mtr trxcvr 5-25w, extended RX range, SN14889 $300-ono. Both ex-cond, full doc's & circuts. Ryobi Drill Press HBD6MA 1/3 hp 600-2500 rpm ex cond. SN1294003 $80-ono . Ryobi Drill-Driver HB10AR 180 rpm, chuck, sockets, bits, variable clutch, $40.

Keith VK3AFI QTHR 03 52213658

• **ICOM IC281H.** 50W Tx on VHF and Rx only UHF, full cross band operation. Still in its carton, unused S/No. 20010. Geoff VK3GV QTHR.$400.(03)9560 3773 or valentin@hotkey.net.au

• **ICOM's IC751** HF c/w workshop manual and orig packaging and instruction manuals $1200 ONO. David VK3DPM QTHR (03)9598 1015

• **COMPLETE PACKET RADIO** station with C64 Diskdrive, 1541 Digicom Modem B&W Monitor Printer 803 Digicom Program instructions $50 ONO VK3CHN QTHR 03 9744 2064

• **ANTENNA YAGI** 3 EL Hy-Gain 14MHz mono, wide spaced, g.c. Stan VK3SE 53 322 340 QTHR $100.

• **YAESU** FT-107M HF Transceiver with matching FV-107 external VFO and hand held microphone. WARC bands and DMS option. Manual and Parts list. $700.00 Tony VK3TZ 03 9887 2917.

FOR SALE QLD

• **AR magazines** August 1964 to date $150. QST magazines January 1953 to date $450. Bill VK4QF QTHR 07 3870 8785 e-mail bilvk4qf@ gil.com.au

• **TS-820** CW Crystal filter Model YG-88C sell or swap. Paul VK4DJ 07 4778 6031

• **Yaesu FT**707S transceiver (low power) FT707 Antenna tuner, Transwest power supply, DX-302 Communication Receiver 10KHz to 30 MHz. All equipment in very good working order and appearance with manuals the lot for $420 Henry VK4VCD 079 4992 1386.

• **Tetrode** 8122 with socket, 400w to 500MHz $95. 12BY7A $15. All New. Ray VK4BLK (07) 49392284

• YAESU FT767GX desk mic $1500, KENWOOD 5205 & desk mike $350, SIGGEN MARCONI TF2015 10-520MHz AM/FM $50, SIGGEN BK2050 100K-30MHz $50, BWD CRO 539 $200, ant couplers LAC895 & LPM 885 $100, ATU'S $100,antennas $275, KEY $75, coax $100, gas fuses $100. **$2900 OR $2500 THE LOT** ANDY VK4CT 0414372 895.

FOR SALE SA

• **VK5 POWERMASTER.** 14amp cont.25amp inter.$120. Hy-gain TH3JR $130. Commander 400 Rotator. $150. Deluxe Versa Tuner MFJ-949E. $140. Advance R.F.Sig.Generator B4 100kHz-80 MHz $70. Sola Power Conditioner. $50. Telequip Scope S51E. $20. QTHR VK5MZ Bill. 08 8536 3391. bilandot@chariot.net.au

• **HAM RADIO** Rig Kenwood TS520 - $ 250. Antenna: Vertical multiband (7, 14, 21, 28 MHz) VS6KR - $ 40. Nick Burrowes. Phone 08 8294 2039. Email: nickburr@esc.net.au

FOR SALE WA

• **ICOM BP4** dry-cell battery pack. Allows IC-2A, IC-40 etc handheld to be powered from 6 AA cells. $15 ono. Chris VK6KCH. 08 9354 8416. Email vk6kch@amsat.org

FOR SALE TAS

• **YAESU** FT101E HF tranceiver, s/n 7M301513, operator and workshop manuals, also service extention cards $200. Homebrew ATU 100w $50. Yaesu FRG7700 HF receiver s/n 31260513 with manual, exellent condition $250. Lloyd VK7LP 03 6269 6317 e-mail lloydpen@southcom.com.au

• **SCANNERS:** JIL SX200 25-550 Mk2/am/fm as new boxes books power supply. What offers? AOR 2001 25-550MHz AM/FM Exc condition Boxes Books. What offers?

Allen VK7AN 03 6327 1171 0417354410

When sending Hamads by email, which is the much preferred method, please use upper and lower case characters as you would in normal text.

WANTED NSW

• **BIG OLD VALVE** communications receivers, military or commercial, unloved, dusty, junked. Wanted for monitoring set up. Also parts, books, manuals, magazines from the past. all gratefully accepted. So give me a hernia and give me a call. L WIA 21068. Call John 02 9533 6261 or e-mail to dxer@fl.net.au

• **BACK ISSUES** of QEX, will pay fair price. Also pre 1992 issues of Electronics and Wireless World. Tel. 02 9411 4442 e-mail georgg@acay.com.au VK2KGG QTHR

• **SEVERAL 866 OR 866A** Mercury Vapour Rectifiers. Ben 02 4457 3220 or PO box 570 Ulladulla 2539 VK2AJE

• **LIGHT DUTY CROWN** brand rotator automatic model car24 complete or control box only.Grahame Foster, 17 Tumut st Dudley, N.S.W.2290 L20747 Ph. 02 4944 8484

• **YAESU** FTV-700 transverter, with 6m and 2m modules. Raul, VK2TPJ 02 9618 2910a/h

WANTED VIC

• 3 1/2 inch diskette for **"PAKRAT FOR WINDOWS"** will buy hire or loan Roc Kirby VK3AKH 03 9331 6316 QTHR

• **PHOTOCOPY** of Owners Manual for Yaesu FT-757GX HF transceiver. I already have the Technical Supplement, but no owner's manual came with my rig. Please contact before sending, I only want one copy, and we can determine costs, I suggest Melbourne Hams only need respond.

Alan VK3JAJ, 98782263, 69 Koonung Rd, Blackburn Nth Vic 3130 or email: ajudson@vnpbanp1.telstra.com.au

WANTED QLD

• **ICOM- 560** 6metre all mode transceiver, price condition. OR SWAP for ICOM- 245 2 metre all mode transceiver. VGC. Gwen, VK4CB 07 3202 7137

• **PHOTOCOPY** of handbook and circut diagram for Kenpro KR500A elevation rotator. VK4ZGF Ph 07 4122 1368 QTHR

• **TEN TEC** Crystal filter Model 282 or 285 for 580 Delta. Paul VK4DJ 07 4778 6031

WANTED SA

• **HIDAKA DENKI** Triband Yagi tuning instruction manual wanted will pay photostats, expenses. VK5ARL John QTHR 08 8255-0617.

• **YAESU** FL7000 HF Linear amplifier. Price and details to Gary on 0419815479 or AH. 08-83966706

WANTED WA

• **USERS MANUAL** or service manual for Kenwood TS-430S HF transceiver. To buy or borrow. Chris VK6KCH. 08 9354 8416. Email vk6kch@amsat.org

• **ICOM** AT500 Antenna Tuning Unit. Lionel VK6LA (08) 9592 4771

WANTED TAS

• **ANARC-3** or Anarc-49 VHF transmitter. ANY CONDITION. Trevor Briggs VK7TB (Norfolk st, Perth, 7300 Tasmania Ph 03 6398 2118 Fax 03 6398 1629

South East Radio Group

Mount Gambier Annual Convention and Fox-Hunt

Championships 1999

12th & 13th June

(Queens Birthday weekend)

A&H Hall, Pick Avenue, Mount Gambier

For further details of Foxhunt schedule etc. including

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http://www.seol.net.au/serg.

For table bookings or of other information contact Wayne VK5ZX:-

e-mail vk5zx@seol.net.au,

packet vk5zx@vk5sr or phone (08) 87 254335.

MISCELLANEOUS

• The Federal WIA QSL Collection requires QSLs. All types welcome especially rareDX pictorial cards, special issue. Please contact the Hon. Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose VIC 3765 (03) 9728 5350

• If you got your licence before1974 you are invited to join the **Radio Amateurs Old Timers Club.** A $2.50 joining fee plus $5.00 per year gets you two interesting Journals plus good fellowship

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• **AMIDON FERROMAGNETIC CORES:**

For all RF applications. Send business size SASE for data/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 (no enquiries at office please ... 14 Boanyo Ave Kiama).

www.cyberelectric.net.au/~rjandusimports

Agencies at: Assoc TV Service, Hobart: Truscotts Electronic World, Melbourne and Mildura: Alpha Tango Products, Perth: Haven Electronics, Nowra.

• **WEATHER FAX programs** for IBM XT/ ATs *** "RADFAXZ" $35.00, is a high resolution short-wave weather fax, Morse and RTTY receiving program. Suitable for CGA, EGA, VGA and Hercules cards (state which). Needs SSB HF radio and RADFAX decoder. *** "SATFAX" $45.00, is a NOAA, Meteor and GMS weather satellite picture receiving program. Needs EGA or VGA & WEATHER FAX PC card, + 137 MHz Receiver. *** "MAXISAT" $75.00 is similar to SATFAX but needs 2 MB of expanded memory (EMS 3.6 or 4.0) and 1024 x 768 SVGA card. All programs are on 5.25" or 3.5" disks (state which) plus documentation, add $3.00 postage. ONLY from M. Delahunty, 42 Villers St, New Farm QLD 4005. Ph 07 358 2785.

Silent Keys

Robert John Marlow, VK6PJ

I am very sorry to report that Bob Marlow, VK6PJ, passed away on 5 November 1998 in Perth after losing his battle with cancer.

After nearly 12 months of study, Bob and I attained our full call licences and commenced transmitting in 1991. It was not long before we became known as 'Bob Up' and 'Bob Down' in some parts of the world as we were neighbours in Geraldton (by coincidence) and lived up or down the road from one another.

Bob always sought opportunities to help others learn amateur radio and operated the Geraldton Senior High School station, VK6AGN, for sometime to generate interest among the students. He threw his home open to scouts camped on his 3 acre property for the JOTA weekend. We became accredited examiners to make it easier for Geraldton folk to obtain licences.

Bob visited his native New Zealand recently to farewell his family there. He made maximum use of his 2-metre radio and spoke highly of their repeater network.

73's to Bob from all his friends. Condolences to Sandy who gave him so much care and love.

Bob Hollingshead VK6KI

L S Drakeford VK4EKK

Samuel Louis Drakeford VK4EKK, ex VS6EK passed away at his home in Runaway Bay, 14 April 1999.

Drake, as he was known on the air, was born in Shanghai China on 14 June 1907.

He was educated at Kings College London and graduated with a Bachelor of Engineering Degree. He was to be posted to China with the Shell Oil Company in charge of the first oil and fuel storage.

Drake operated on amateur radio in China call XU8LD. During WWII he was interned in the International Compound Shanghai.

Drake and wife Ailuen moved to Hong Kong on retirement, where he became known world wide with the call VS6EK. His wife Ailuen passed away 18 Feb 1986. After his wife's death Drake visited Australia and stayed with my wife and I for several months before purchasing his home at Runaway Bay.

Drake and I visited Beijing and Shanghai in 1996 and the Fredrichshafen Hamfest in 1994. Drake continued to be active on all modes up till 1998.

May he rest in peace.

Bill Hempel VK4LC.

WIA Division Directory

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually in their residential State or Territory, and each Division looks after amateur radio affairs within its area.

Division	Address	Officers		News Broadcasts Note: All times are local. All frequencies MHz.	Fees	
VK1 ACT Division	President	Gilbert Hughes	VK1Gh	3.590, 146.950, 438.375, 438.325, 438.225 & 438.025 FM each Sunday from 8.00pm AEST. News text on packet BCAST@VK1BBS, *http://www.vk1.wia.ampr.org & aus.radio.amateur.misc newsgroup.* Send items by packet as personal message BCAST@VK1BBS or e-mail to broadcast@vk1.wia.ampr.org.	(F)	$72.00
GPO Box 600	Secretary	John Woolner	VK1ET		(G) (S)	$58.00
Canberra ACT 2601	Treasurer	Les Davey	VK1LD		(X)	$44.00
VK2 NSW Division	President	Michael Corbin	VK2YC	From VK2WI 1.845, 3.595, 7.146*, 10.125, 14.170, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1273.500 (* morning only) with relays to some of 18.120, 21.170, 581.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup *aus.radio.amateur.misc*, and on packet radio.	(F)	$69.00
109 Wigram St	Secretary	Eric Fossey	VK2EFY		(G) (S)	$56.00
Parramatta NSW	Treasurer	Eric Van De Weyer	VK2KUR		(X)	$41.00
(PO Box 1066 Parramatta 2124)	(Office hours Mon-Fri 11.00-14.00)					
Phone 02 9689 2417	Web: *http://ozemail.com.au/~vk2wi/*					
Freecall 1800 817 644	e-mail: *vk2wi@ozemail.com.au*					
Fax 02 9633 1525	Packet BBS: VK2WI on 144.850 MHz					
VK3 Victorian Division	President	Jim Linton	VK3PC	VK3BWI broadcasts on the 1st and 3rd Sunday of the month, starts 10.30 am. Primary frequencies, 3.615 LSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075 and repeated at 8pm on 3.615USB. Major news under call VK3WI on Victorian packet BBS and WIA VIC Web Site.	(F)	$75.00
40G Victory Boulevard	Secretary	Barry Wilton	VK3XV		(G) (S)	$61.00
Ashburton VIC 3147	Treasurer	Rob Hailey	VK3NC		(X)	$47.00
Phone 03 9885 9261	(Office hours Tue & Thur 0830-1530)					
Fax 03 9885 9298	e-mail: *vk3wi@rint.com.au*					
	Web: *http://www.tbsa.com.au/~wiavic/*					
VK4 Queensland Division	President	Colin Gladstone	VK4ACG	1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 14.342 MHz SSB, 21.175 MHz, 28.400 MHz SSB, 29.220 MHz FM, 53.725 MHz FM, 147.000 MHz FM, 438.500 MHz (Brisbane only), and regional VHF/UHF repeaters at 0900 hrs EAST Sunday. Repeated on 3.605 MHz SSB & 147.000 MHz FM at 1930 hrs EAST Monday. Broadcast news in text form on packet under WIAQ@VKNET.	(F)	$74.00
GPO Box 638	Secretary	Peter Harding	VK4JPH		(G) (S)	$60.00
Brisbane QLD 4001	Treasurer	Alistair Elrick	VK4FTL		(X)	$46.00
Phone 07 3221 9377	e-mail: *secretary@wiaq.powerup.com.au*					
	Web: *http://www.wiaq.powerup.com.au*					
VK5 South Australian Division	President	Ian Hunt	VK5QX	1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.700 FM Mid North, 146.800 FM Mildura, 146.825 FM Barossa Valley, 146.900 FM South East, 146.925 FM Central North, 147.825 FM Gawler, 438.425 FM Barossa Valley, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. 3.585 MHz and 146.675 MHz FM Adelaide, 1930 hrs Monday.	(F)	$75.00
34 West Thebarton Rd	Secretary	Mervyn Millar	VK5MX		(G) (S)	$61.00
Thebarton SA 5031	Treasurer	Joe Burford	VK5UJ		(X)	$47.00
(GPO Box 1234 Adelaide SA 5001)	Web: *http://www.vk5wia.ampr.org/*					
Phone 08 8352 3428						
Fax 08 8264 0463						
VK6 West Australian Division	President	Cliff Bastin	VK6LZ	146.700 FM(R), 438.525 FM(R), 29.120 FM at 0930 and 1900 hrs Sundays from Perth, relayed (morning only) on 1.865, 3.564, 3.582 (Busselton), 7.075, 14.116 (North), 14.175 (East), 21.185, 50.150; (morning and evening) 146.900(R) Mt William (Bunbury), 147.00(R) Katanning, 147.200(R) Cataby, 147.250(R) Mt Saddleback (Boddington), and 147.350(R) Busselton; (evening only) 1.865, 3.564 MHz.	(F)	$62.00
PO Box 10	Secretary	Christine Bastin	VK6ZLZ		(G) (S)	$50.00
West Perth WA 6872	Treasurer	Bruce Hedland-Thomas	VK6OO		(X)	$34.00
Phone 08 9351 8873	Web: *http://www.faroc.com.au/~vk6wia/*					
	e-mail: *vk6wia@faroc.com.au*					
VK7 Tasmanian Division	President	Ron Churcher	VK7RN	146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.	(F)	$74.00
24 Targett Street	Secretary	Paul Godden	VK7KPG		(G) (S)	$60.00
Scamander TAS 7250	Treasurer	John Klop	VK7KCC		(X)	$46.00
Phone 03 6372 5305	Web: *http://www.wia.tasnet.net*					
	e-mail: *vk7kpg@hamnet.hotnet.com.au*					

VK8 Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

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D 3286

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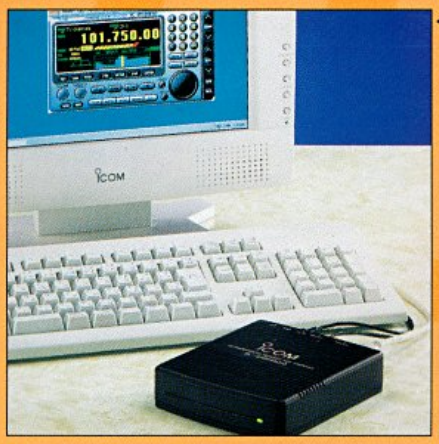

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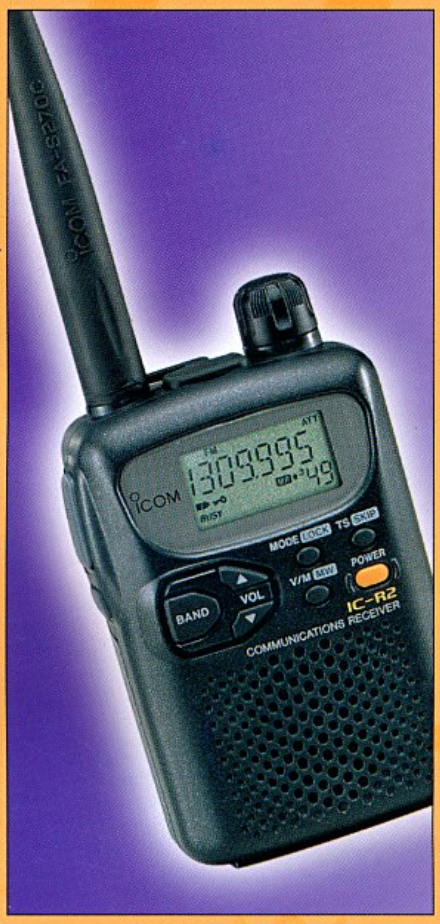

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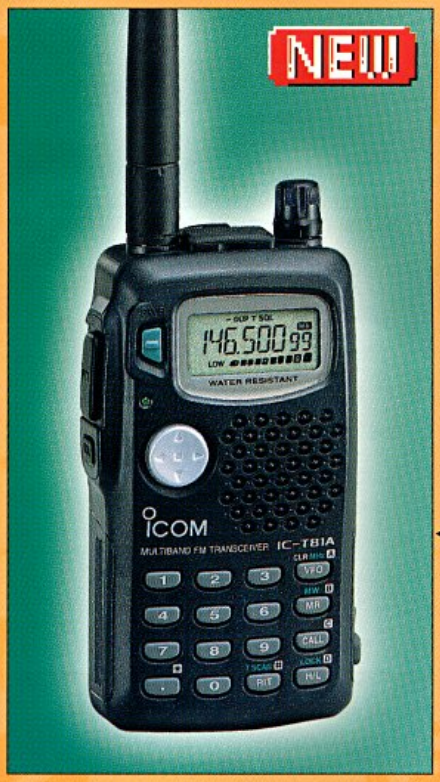

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